BIG K

No.10 JANUARY 1985 85p

## SIZZLING GAMES FOR:
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# WELCOME TO THE FUN FACTORY

Happy New Year — or happy old one if you're reading this before Christmas. Technically speaking this is our first issue of 1985 — but it goes on sale in the last weeks of 1984. It's January in December. . .and I'm writing these words in November. All part of the confusing fabric of magazine life.

Life promises to soon get very confusing for the latest wave of newcomers. Those tempting, button-laden plastic boxes looked so good in the shop window. right? Coming to terms with some of computing's, less attractive features will (we guess) be a different story. Short of sticking to the new wonder machine's game-loading feature, there's no easy answer to Maltware.

So it's time to get down and dirty — and seek all the help you can get (see page 104).

Computer magazines can help. BIG K is a computer magazine. We are your friend. We have pixels in our eyes and a burning need to help and inform. You can trust us. Step this way into 1985.

In the meantime, access lots of global user friendliness in the next major time-frame to come off the stack. In other words, Happy New Year.

RICHARD BURTON

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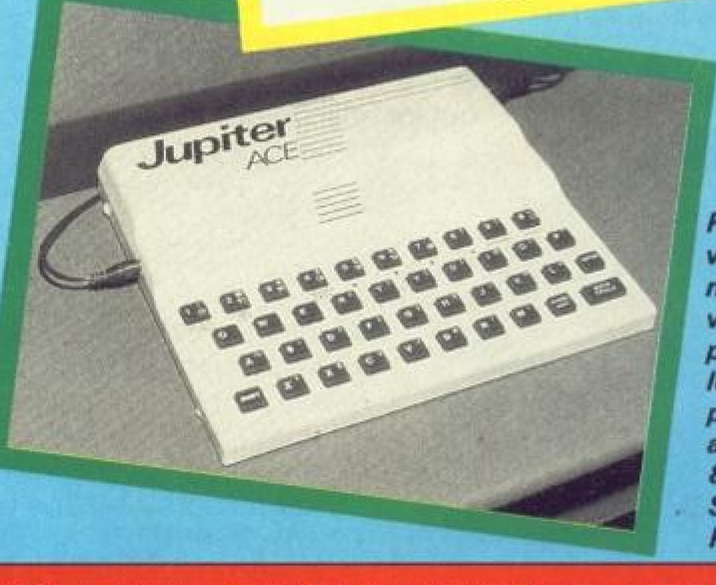




*Ghostbusters: see the film, sing along to the game. Page 8.*



*Ski-Slope — the full of fitness VIC? Page 96.*




*Remember when micros were high-priced, low-powered and black & white? So do we. Page 118.*

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# MYSTERY DEEPENS OVER ATARI 'WE ZAPPED COLECO' CLAIM

AT TIME of going to press, a serious row seemed to be brewing between Atari UK and CBS-Coleco — over a press claim by Atari that Coleco are about to pull their computer-game operation out of Britain.

'Coleco', claims an Atari press handout, 'are withdrawing from the UK marketplace, leaving Atari as the unchallenged leaders'.

'We know nothing at all about this', Coleco told BIG K. A phone call to BIG K correspondent in Chicago, Mike Gold, also established that there are no current rumours in the USA to the effect that Coleco plan to cut and run (though the Adam is now heavily discounted) and moreover that their TV ads are still running with the usual (expensive) frequency.

Calls to Atari's PR company and to Atari themselves succeded only in establishing that the basis for the statement appears to lie in a remark made recently by a Harrods employee to a member of the Atari sales force — i.e. that Coleco were closing down their UK computer-game operation. Atari UK Sales and Marketing Manager Rob Harding told BIG K, through a spokesperson, that 'there have been other reports from UK retail sources to the same effect' — though he declined to identify these.

Asked if this was a suitable basis on which to make a press statement that a major competitor was going out of business, the Atari spokesperson said 'Well . . .'

We'll keep you posted.




Witness similar computer atrocities in Fred Pipe's '101 Things to do with a Dead Computer', published by Hamlyn Paperbacks at £1.95.



# CLIVE REACHES OUT

WITH THE imminent relaxation of COCOM restrictions on computer exports to the Eastern block, The Blessed Clive Sinclair has been gathering disciples about his voluminous robes. Business manager for the East Jan Tyszka has been appointed to go out and win the hearts (and minds) of the East.

The shake-out will only apply to eight-bit machines, hence the (32-bit) QL will not be liberated for export. Home computer ownership is illegal in the USSR, though many are smuggled in through surrounding countries. Despite restrictions, computers are immensely popular. 'This is only the beginning', say Sinclair. 'We are actively pursuing the Eastern market.'

Obviously these vast, untapped markets are going to be the fulcrum of unprecedented competition. And what are Sinclair's rivals doing to dredge up the Eastern promise? 'We have nothing whatsoever to say on the subject,' Commodore told us.

# Xitan XBASIC in XCeltic XLanguage Xcitement!

MICROCOMPUTING strengthens it's squid-like grip on the world's market with every passing microsecond.

Latest eisteddfodder for the beast are hitherto uncatered-for Welsh speakers. Xitan, who make the XBASIC semi-compiler to run on CP/M-type operating systems, have produced a Welsh-language version. This seems to mean mostly that short simple keywords get longer. LOAD becomes LLWYTH and RUN RHEDEG.

Presumably complex concepts such as ON ERROR . . .GOSUB translate out as railway station names. Try entering Llanfair . . .gogogoch in a hurry.

# *BRADFORD ON TRIAL*

BRITAIN'S FIRST computer information service is on-line courtesy of British Telecom, Bradford. Append your ear to 'Home Computer Line' on Bradford 722622. The three-minute tape is updated twice weekly, on Tuesdays and Fridays.

The prog is aimed across the board, offering news for gamesters as well as for serious bods into home accounting and the latest in word processing.

BIG K however was able to glean some newsworthy items — a little formal, a bit like the speaking clock lady reading exerpts from press releases. Hard copies are available on request for 50p a throw.

Patricia Smith, the entrepreneuress who took the idea to Telecom, explains: 'Bradford is just a trial region. We're hoping to get a big enough response to go nataional.'

## AMSTRAD PRINTERFACE

**PROMISED FROM Amstrad is a serial interface for their CPC-64, packaged in pretty charcoal grey. Amstrad also give you a fully fledged RS232 port so all you potential hackers out there, be it wrong or right, may now have lots of fun at British Telecom's expense.**

**There are less frivolous uses for this jolly little widget, such as overcoming the Amstrad's inability to send out certain control codes through its printerface. Now all you have to do is hook up your printer to your new serial port and bung out all the control codes you like. Watch this space for price, review, thrills and spills.**

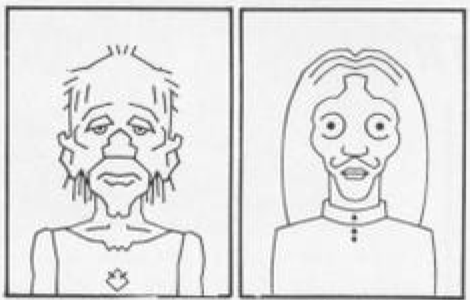
MORE NEWS ON PAGES 4, 5, & 6




## LEGEND BOXES CLEVER WITH GREAT SPACE RACE

**DEEP IN darkest Chingford something stirred. Behind the fortress walls of the Legend Command Post a cast of characters was being moved into position. They were the prime factors in new assault on the imaginations of computer game layers everywhere — the participants in *The Great Space Race.***

**If all has according to plan, the first 'attack wave' of Legend's new game should be in the shops now. When BIG K was ushered through security into the command post all was still highly**



Dos Gurm

**classified, from the unique packaging design through to the reason for the very race itself.**

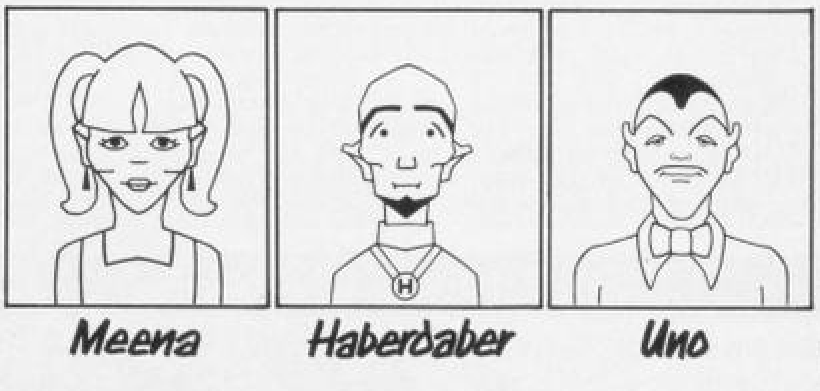
**Chairman John Peel displayed the former, a classy little number in blue PVC with silver printing, proudly claiming that a certain Big Chain Store (sounding like footwear specialists) were so thrilled with it they were making special provisions to display it.**

**As to the background to *The Great Space Race,* it all appears to centre round a revolutionary new alcoholic beverage known only as *Natof.* 'It has all of benefits of the strongest alcoholic drinks,' explained John, 'but absolutely none of the side effects.' The effect on the civilised galaxy is shattering — everyone wants it. The race is on to get it.**

**'If it has any equivalent it's like the Beaujolais Nouveau Race that takes place each year,' MD Jan Peel told BIG K.**

**TGSR's cast of characters will be one of its chief attractions. All will have a convincing screen 'life' through the facial expression routines of Movisoft2. BIG K exclusively previewed Vindaloo two issues ago and presents some more cast members here. A particular favourite of John's is Genghis, a character he describes as, '. . .a failed pirate.' Each TGSR character has a detailed biography contained in the booklet which accompanies the game.**

**With TGSR now complete husband-and-wife team John and Jan are already working on their next project. With typical Legend vagueness all they will say is that we won't have to wait very long to see it.**



Meena Haberdaber Uno

## CODEBUSTERS IN WORLD-WIDE COMMS ALERT

THE GLOBAL hacker threat reached new proportions last month with a total break-down in Prestel system security.

Prestel, British Telecom's prestige network, has been accessed by hackers before, but only in low-security areas. Unfortunately the dedicated team of codebusters (you lot out there know who we mean — don't try and look innocent) accessed the secondary testing system to find a list of secret personal codes including that of Prince Philip's mailbox. 'I do so love puzzles and games. Ta ta! Pip Pip!' was left as a message. Come on you guys, you can do better than this!

Prestel claim that it was a one-off error and that they have now changed all the access codes for the system. They further maintain that it's impossible for hackers to, say, order 5000 tons or corgi excrement in someone else's name, because there are protected 'gate-ways' in the way preventing unauthorised access to ordering systems. It might be uncharitable to suggest that if one system can be breached, then so can the next . . .

But not to worry. An unidentified German hacker has shown a deep sense of ethics by turning down a contract to break into a credit card system to obtain vital top secret info about Lady Di's shopping habits. Approached by a West German magazine, the noble outlaw refused on the basis that it's all a matter of challenge, not greenbacks. Our faith in human nature is restored.

Be that as it may, the business world is getting worried. We spoke to Garth Postlethwaite, spokesman for Interglobal Titanium and Timber, one of the world's leading ten multi-nationals — recently in the news for their controversial scheme for extracting bauxite from limestone nodules mined from the Lunar marina or 'seas'.

'These people have placed us in a category A negative contingency situation' he explained. 'We are thinking in terms of a bi-fold response capability. We have authorised the establishment of recruitment centres on world-wide basis, offering a wide range of financial inducements for these so-called hackers to join our tele-communications teams. As a final solution to 'electronic insurgency' we can only advise central government to institute specialised catchment areas for the re-education of these irresponsible persons.'

So don't say you haven't been warned.

## ORIC LIVES!

RUMOURS THAT Oric Products International are on the edge of disaster have been flying thick and fast lately, but true to their roller-coaster reputation, the company seem to be bouncing back with the announcement of three new machine launches in the new year.

The true successor to the Atmos will be the 6502-based Stratos with 64K user RAM. There will be no on-board BASIC but instead a variety of cartridges, with up to 112K of ROM to be plugged in for specific applications.

The machine will have an 80-column display, and will look superficially like the Atmos, except that the mysterious FN key will suddenly become usable for BASIC key-word entry.

It looks like the Stratos is the micro that the Atmos should have been, just as the Atmos was the true Oric-1. The other machines are the oddly named Oric II, a 16-bit 128K business PC, and a portable using an 80x25 LCD display.

Can the Cambridge boys pull it off? Here's 'OPIng!

**ROCK SOFT are a new company formed expressly to protect music rights. As such, they stand to bring a new dimension to the micro world — that of paranoia, writs, and legal battles. All of these have excellent news value. First on the blush list has been mastertronic. They nestled up close to Michael Jackson's 'Thriller' in their game *Chiller,* without so much as a nod at Rondor Music (London) Limited, who own the rights. Rock Soft, who had bought the rights, moved in quickly, and although *Chiller* remains on the market, the second edition no longer emits Old One Glove's theme scream.**

### NAIVITY

**'We'd like to think that music theft results from naivity', says Rock Soft director, Martin Humphries. 'But it's not young, inexperienced programmers that do it. It's the work of marketeers. This is especially blatant in the case of 'Thriller' which is the biggest thing this decade'.**

# ACORN JOINS THE IV LEAGUE

THAT STANDS for Interactive Video, and it's starting to look like next year's thing in home entertainment.

IV means pulling images off Video systems under computer control. It's proved so promising that a National Interactive Video Centre is being set up, and now Acorn are getting in on the act with a combination Japanese laser disc player and Beeb Model B.

It seems, however, that no-one told Acorn that their package, which will sell for £3000, will have to compete with Thorn EMI's established system which, since it uses a non-laser disc goes for a mere £1000. They're going to need some aggressive marketing.

Initial IV uses will be educational, but it's not hard to foresee games applications — say, the insertion of video sequences in adventure games.

Wanna play *Mach 3* on your Newbrain? All things are possible these days.




## A Groovy Pad for the Well-equipped Adventurer

ARE YOU embarrassed to be seen using that old-fashioned graph-paper to draw up your Adventure maps? Or maybe (shock, horror!) you were using the backs of old envelopes? Print 'n Plotter Products have stepped in to help you restore your PoseCred rating. The Adventure Planner is a 50 page A3 pad specifically designed for adventure room layouts.

The pad retails through dealers at £3.95 and is available via from the makers at £4.50. Each sheet can be used for over 150 locations, and the pad comes complete with useful hints and tips (which end of the pencil to use?). Definitely another way to attain Hampstead values, we say.

# ASHES TO ASHES DUB TO DUB

Mastertronic's PR admit that the game was written around the Michael Jackson video. And the copyright? 'We just didn't think,' they said. The fight between the two companies has now been settled out of court for an undisclosed sum.

Rock Soft are sitting on rights to some six or seven thousand arrangements. 'That's virtually every song you'll hear in Europe', says Martin. Out of these, *Yellow Submarine*, *Chariots of Fire* and bona fide *Thriller* are all paid-up, soft-works in progress.

'*Thriller* will be next Christmas's mega-game', says Martin. 'Mastertronic caused production to fall three months behind, because *Chiller* put our company right off.'

Martin set up Rock Soft after 20 years of protecting copyrights in the music business. Another music business renegade is Activision Director, Geoff Heath. Activision recently made UK history by slapping down Microdeal, (over *Cuthbert in the Jungle*, which bore more than a passing resemblance to Activision's *Pitfall*).

The music business has been hard-bitten with copyright protectionism for years. There have been several occasions in the software business for someone to come down like a ton of bricks on copyright violation. It's only suprising that it hasn't happened before. Now it looks like bye-bye to an era of laissez-faire plagiarising. Commercial programmers take note!

# *ANY OLD IRON?*

WHAT'S the ideal Christmas present for the micro owner who has everything? The answer could be a year's membership of the Micro Repair Club.

The Club offers a 'Repair-Guarantee-Package' to which users can subxcribe when their micro manufacturer warranty runs out. The one year package costs £24.95 and renewal after that is £14.95. If you have a rich friend, you may be able to persuade them to fork out £57.95, which covers you for four years.

Home computers will be repaired, and the only cost to you will be the postage to their service department in Hampshire. The Micro Repair Club's service is underwritten by Domestic and General Insurance.

The computer console only is covered and if — in the opinion of the Micro Repair Club — the repair costs exceed the market value of the equipment, they will either supply you with a new computer or the full purchase price, as long as the micro is not more than five years old.

If you want more details about the Club, which also plans to send members' newsletters, special offers and other goodies, contact: The Micro Repair Club, Swan court, Mansel Road, Wimbledon, London SW19 4AA.

# CHEAPSKATE CORNER

CONTINUING the never-ending saga of cheapware for impoverished punters: Charlie Charlie Sugar have released *Nuke Lear* and *Tomb of Akhenaten* for Spectrum at £2.99. . .and a 'revolutionary new software house' (it says here) Computer Records have done an old-style K-Tel and produced *Select 1* — a 'compilation tape' comprising Greatest Hits from houses like Quicksilva, Ocean, Bug-Byte and Anirog for £12.49. Titles include *Hunchback, Kong, Hexpert* and *Skramble*. . .sounds like real original stuff — well, no it doesn't really, but who cares at these floggeroo Prices? You do? Well, try the stuff anyway: available on Spectrum and 64, *Select 1* includes 12 titles, so the price-per-title is a pretty nifty, er, £1.04083333. Can't wait. . .By the way, pioneer budgeteers Mastertronic have just sold their 1,000,000th game.

And still they come, scenting a quick kill among the ranks of nouveau punters: a Big Hello to Software Supersavers, and a respectful notation of their prices: £2.99 buys you a range of titles including *Ziggurat, Flip Flap, Fred's Fan Factory* and — yes — many others! Note for cognoscenti: S.Supersavers are a subsidiary of Software Projects, so dontcha just know the stuff will be good. . .

Meanwhile over on the Dorkslayer pages, sudden ecstasy breaks out at the news that the entire *Ket* trilogy will be marketed within a very few days at a price of £12.95 the lot (and they're robbing themselves, honest guv). For the aforementioned thirteen bucks you get: *Mountains of Ket, Temple of Vran* and *Final Mission*. Total saving; £3.55, and a bargain if we know anything about it.




Finally, a swift reminder to certain software houses who have mistaken the purpose of Cheapskate corner, and a judgment from Lord Denning. 'I have carefully examined the column entitled Cheapskate Corner in the BIG K magazine and am entirely convinced, as indeed the Editor claims, that the term Cheapskate, as used in the editorial context, refers wholly to the impoverishment of the consumer — the Hacker on the Clapham Omnibus — and not to the makers, manufacturers or distributors of the discounted computer software. The complaint by [deleted], to wit that his company was being unfairly labelled as miserly, is therefore rejected.

'By the way, Mr. . .er. . . Precisely who is Mr Jet Set Willy, and what does the term 'Poke' mean?'

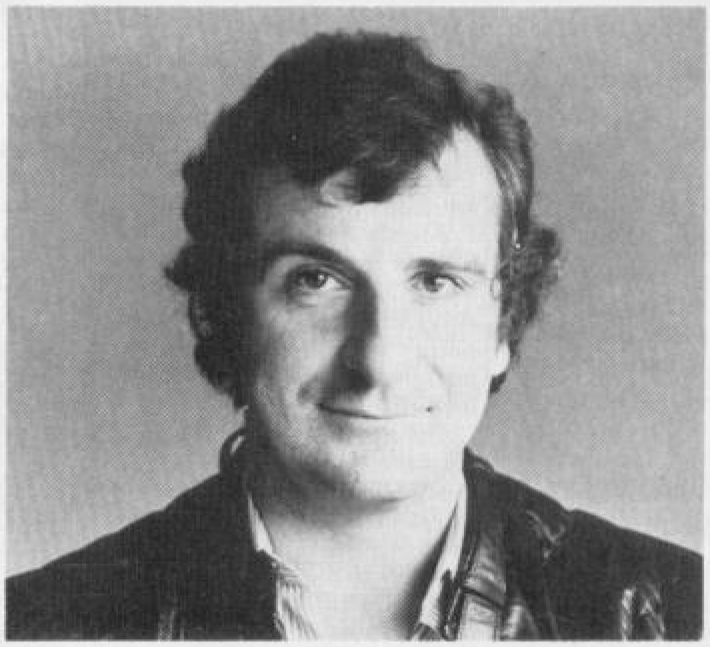
(Laughter.)

**NEWS feature**

*ARE YOU READY FOR...*

# The Hitchhacker's Guide *TO THE UNIVERSE*

**MARGARET WERTHEIM remembers her towel, and also doesn't fail to interview DOUGLAS ADAMS, King of the Pan-Galactic Gargle-blasters**



SITTING IN his study in a house in Islington surrounded by electronics Douglas Adams, the man who put an interstellar bypass through Planet Earth, is eagerly trying to get a demo disc of FORTH going on his new Apple Macintosh. Adams has just finished saying how much he loves the Mac which he now does most of his writing on. He claims its windows, icons and mouse offer the most natural tools for the writer.

While we wait for the Mac to accept the disc, which it just doesn't want to do right away, he explains that he is learning FORTH so he can write a program to do 3D crosswords. It is a project he began on his DEC Rainbow, which sits next to his Apricot which sits next to the Mac. Just why he wants to do 3D crosswords when most of us have enough trouble with the 2D variety never became clear, but a man who's just written a novel in three weeks has probably earned the right to indulge in a bit of mindless character crunching.

*So Long and Thanks for all the Fish* is the fourth and definitely the *last*, says Adams, in the *Hitchhikers Guide to the Galaxy* series. After two radio series, four novels, a TV series, a forthcoming feature film and a soon-to-be-released *Hitchhiker's* computer game Adams has decided to stop playing God with the universe and return to mother Earth.

## MAGRATHEAN EFFORT

Creating new worlds can be hard work and, as Arthur Dent found out, so is saving them. In *So Long* Arthur finds himself back on Earth and only too eager to stay. But just when it seems he has hung up his towel forever the Galaxy gets in his way again. I won't divulge the answer for those who are longing to know God's Final Message, which is written in huge fiery letters on the last page, except to say that it's greater than 42.

*So Long*, which was written in a locked hotel room in three weeks, is the end of an eight-year trek for both Arthur Dent and Douglas Adams. After the interglactic battles and mega-binging of the first three episodes *So Long* is a very quiet and intimate book. For some devotees it may prove a bit disappointing. Neither Zaphod or Trillion appear at all and Marvin doesn't crop up till the very end when he at last finds a moment of . . . well not quite happiness, but almost.

There are many questions left unanswered: Where *are* all the dolphins? What happened to the mice? And just what became of the interstellar bypass? DON'T PANIC there's plenty of room for another sequel should Arthur/Adams ever decide to pick up his towel/pen again.

## 42 AND COUNTING . . .

Adams doesn't really think of the series as SF despite its setting. He refers to himself as a comedy writer who wandered into SF by accident. He says he'd like to get away from it but admits all his best ideas are the SF ones. 'It just keeps getting in the way'. Overtones of Arthur Dent I suspect.

His wonderful ability to exaggerate is so ideal for SF. As anyone who's ever tried to make sense of a restaurant bill will know, the ordinary laws of mathematics simply don't apply. Who knows, maybe one day we *will* fly into hyperspace in a Starship Bistromath. Like bistromaths, many of Adams' ideas come from petty annoyances in everyday life taken to their ultimate absurd conclusion. Was there ever a greater bug in a system than the one which produced the Ultimate Answer 42 to the Ultimate Question 'What is 6 times 9?' after working on it for millions of years?

Now the boomerang has come back. From out of his living room into the cosmic quagmire Arthur Dent has returned to the living room. Not just his own this time, but yours too. Infocom are about to release the *Hitchhikers Guide to the Galaxy* text adventure game. Adams has written all the text, which is in the same style as the book and punters can travel, like Arthur, around the galaxy at their own risk. It is available on Atari, Commodore and Apple so far and because of memory requirements a disc drive is essential at present.

So the fish have met the chips at last. Stand by to hitch a ride on the next passing Vogon freighter. And whatever you do DON'T FORGET YOUR TOWEL!

# Now on 48K Spectrum




# The ultimate underground adventure

Superb scroll routine, described by experts as one of the best pieces of Spectrum programming ever! Sixteen mystical caves, 5 levels of play, joystick or keyboard options.

One of the toughest tests of strategy and reflexes ever! Starring "Rockford" TM the incorrigible burrowing bug in his restless quest for gleaming jewels.

## U.S. Reviews

"... Boulder Dash should be leading contender for anybody's action-game-of-the-year award."
Burt Hochberg **GAMES Magazine**

"... a magical mix of challenge, charm and originality ... easily one of the best computer games of the year."
Michael Blanchet **Chicago Tribune Syndicate**

"This game will be mentioned in my will ... what silicon is and integrated circuits were always meant to be ... subtle brilliance and unceasing magic ... in a class by itself ..."
Craig Holyoak **Deseret News**

"First Star has done a first-rate job on BOULDER DASH ... the graphics are dazzling ..."
**The Video Game Update**

"BOULDER DASH takes the cake ... the overall quality is excellent ..."
John Skoog **K-Power Magazine**

# This one's hot for Xmas!

U.S. Nº1 Smash Hit

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**To: Front Runner, K-soft distribution, 620 Western Avenue, London W3 0TU**

**Tape £7.95 Including VAT**

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I would like to hear news of more Front Runner releases ☐ Yes

Please allow 21 days for delivery.

# GHOST-GOBBLING in the SPECTRE SECTOR

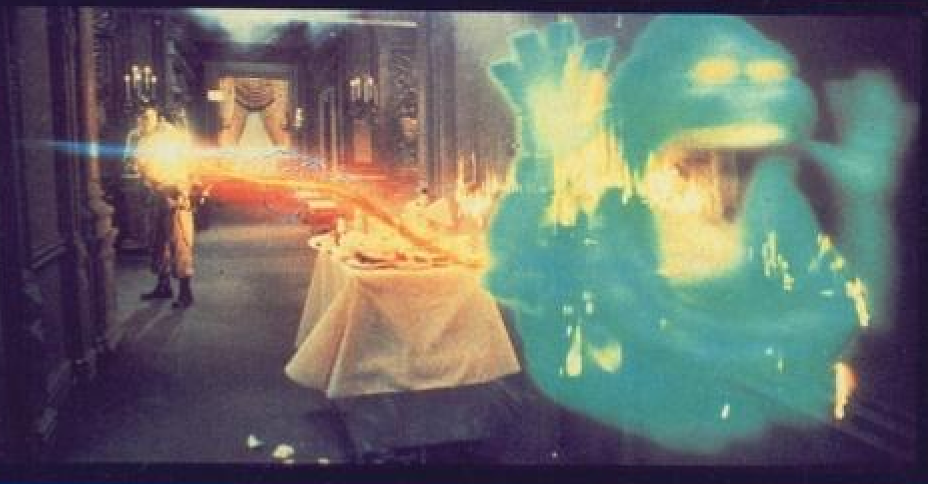
***NICKY XIKLUNA reviews GHOSTBUSTERS (the movie)***



**You meet a poor class of person in libraries these days.**



**Lighting a cigarette after a heavy can be a dodgy business.**



**Mr. P. Geist checks out of a downtown hotel.**

**YOU AND I know that no self-respecting ghost would be seen dead in New York. Yet Ghostbusters is such an entertaining movie that it's easy to forget that we've left the old world.**

*Ghostbusters* is a modern update of the classic ghost story. Our erstwhile exorcists dress in para-military outfits, and come equipped with the latest in modern technology. (No garlic, just neutron wands and proton packs). The film brims with wise-cracks, fast one-liners, nutty characters and special effects wizardry. Released in the U.K. in early December, it has already drawn more cash to the box office than any other Columbia picture.

At last here's a movie where all-American altruism is honestly determined by mazuma. For the Ghostbusters, 'no job is too big, no fee is too big'. Our heroes flee from their first full- torso apparition, howling with terror. Their equipment works, not through stylised, *Star Trek* hi-tech, but through sheer good luck. This, you and I know, is how real Americans truly are — damn lucky to come out on top, and walking a wobbly plank between genius and lunacy. And what is more, we love them for it. (At least in the movies).

Lunacy comes as no surprise, as *Ghostbusters* was written by Dan Aykroyd and directed by Ivor Reitman of *Animal House* and *Meatballs* fame. Bull Murray, Dan Aykroyd and Harold Ramis form the Ghostbusting caucus as Dr.'s Venkman, Stantz and Spengler. Their comic rapport, apparently partly improvised during the filming, is redolent of the enigmatic wit of the Marx Brothers. Something that spectacular cinema has largely gone without.

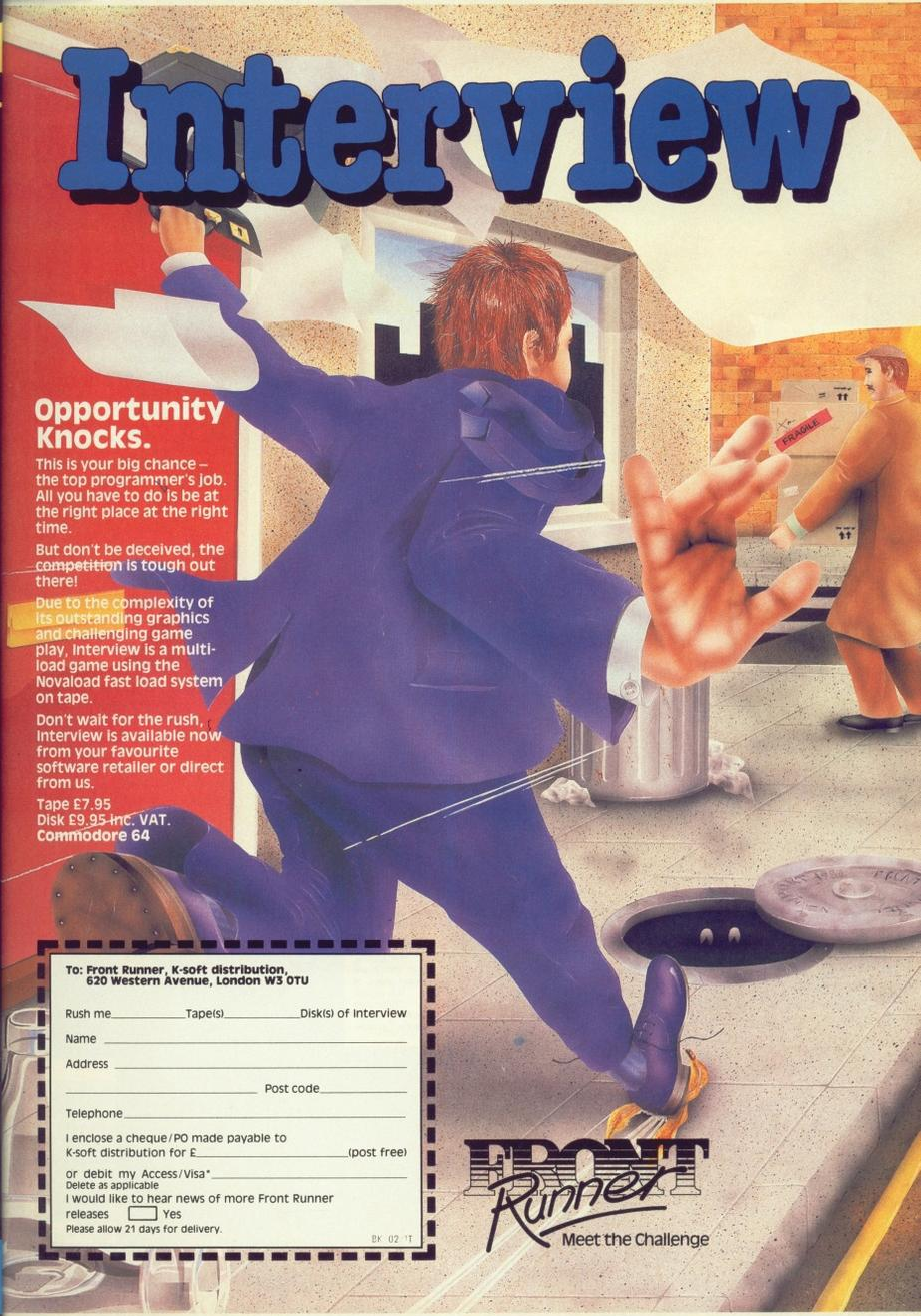
Thrown out of academe for regarding 'science as some kind of a dodge or hustle', the parapsychologists go into business with a patented trap for 'vapours, entities and slimers'. Suddenly New York is terrorised by increased psychic activity, which seems to emanate from a strange, messianic apartment block built by sinister architect and occultist, Shandor. All this has more than a passing effect on inhabitant Dana Barrett, (played by Sigourney Weaver), who stumbles across a bizarre sect of evil entities operating from, of all places, her refrigerator.

When business takes off no one is more surprised than the Ghostbusters themselves. But the colourful effluvia get way out of hand. Selflessly thinking of the lives of 'millions of registered voters,' the Mayor puts Ghostbusters in command. So now we're set up for the inevitable million dollar showdown. In this movie, this takes place a-top a skyscraper-cum-temple, the set of which cost literally $1 million amount to build. The Ghostbusters emerge as heroes of New York's odd-ball population, and even the rabbis are dancing in the streets.

Reitman used mechanical rather than visual effects so that the actors had something 'real' to work with on camera. Some models required as many as ten people to operate. The ghosts are comical, occasionally scary, and verge on the tacky rather than the slick. This gives them character and is perhaps a relief from over serious and precious realism.

*Ghostbusters* is a funny, irreverent movie. This is an old cookie...but if you are fool enough to see just one movie this year, you should think seriously about making it *Ghostbusters.*

***OVER PAGE: RICHARD BURTON reviews GHOSTBUSTERS (the game)***



Interview
Opportunity Knocks.
This is your big chance – the top programmer's job. All you have to do is be at the right place at the right time.
But don't be deceived, the competition is tough out there!
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# BUSTIN' THEM SPOOKS IN OL' NU YORK!

**Being an examination of paranormal activity in a computer game related to a motion picture of considerable fame.**

NOW YOUR average ghost is not the most hilarious thing in the world. Like, it's a manifestation of something dead — like deceased. The unliving. Your basic phantasm has been consistent subject matter over the years for movies that have you reaching for the barf bag rather than rib-binding tape.

But then there's *Ghostbusters;* a film that breaks the rules and offers up your white-as-a-sheet stereotype in a chucklesome format. In the U.S. crowds flocked to see it making the movie that most marketable of all properties, a box office smash. Small wonder then, that along with all the T-shirt, badge, toy and sticky sweets makers came Activision with plans to produce *Ghostbusters* — the computer game!

Games-of-the-movie have not had a brilliant track record to date. Who can forget Atari's fumbled attempts to translate *E.T.* and *Raiders of the Lost Ark* into video games? However, with reservations (which may, or may not, be revealed later), I think Activision might just have got the formula right with *Ghostbusters.*

One word of warning before we plunge headlong into a close examination of the game. you *must* like Ray Parker Jr.'s finger-popping theme tune. I mean really *love* the thing to the point of obsession. Because once this game starts the damn thing just won't quit! A music panic button should have been mandatory.

Okay, so you're a Ray Parker Jr. groupie and the game has loaded. The title screen comes up, the music starts and on comes the bouncing ball to help you sing along with the lyrics that scroll up the screen. No kidding. This was the only time I could've used that barf bag. Pressing the space bar punctuates the music with the yell. 'Ghostbusters!', in impressive, natural-sounding speech. This and a couple of other bits of dialogue in the game are produced by a system called Software Speech — a big bonus for CBM 64 owners.

Pressing f1 or f3 starts the game. You are applying for a Ghostbusters franchise and need funding. You can either input an account number or, as a new customer, accept a flat-rate $10,000 loan.

The 'account number' is gained after successfully completing one or more games. Activision claim that the code can be used on any version of the game anywhere in the world. So remember, wherever you go don't leave home without your secret Ghostbustrs number — you never know where you might find a game.

Cash in hand you move onto selecting a suitable vehicle for your operation. Four are offered, ranging in price, speed and capacity from a VW beetle to a high-performance sports job. Next is equipment selection. Check out the goodies on display: PK energy detectors, image intensifiers, ghost traps, ghost vacuums, a laser confinement system, and more. Equip your vehicle according to your budget and you're ready to tackle those spooks.

Out on the New York streets, things are getting heavy. Slimers terrorise apartment blocks and Roamers are converging on the Temple of Zuul in ever-increasing numbers. A real bad trip is in the air.

Check the streetmap display for Slimer alerts and work out the shortest route to the target. Thumbing the joystick fire button switches to an overhead view of your vehicle barrelling along the street. If you have a ghost vacuum on board you can suck up any Roamers on the way. At the target zone two of your Ghostbusters deploy a trap and attempt to lure the Slimer into it using their negative ioniser power packs. Should the ghost escape the ion streams one of your men has had it. Software Speech kicks in with, 'He slimed me!' and you're looking for a new Ghostbuster. Worse still, should the streams cross both men go down. It's a tough, dirty job but someone has to do it.

Successful entrapment gains a triumphant 'Ghostbusters!' shout, boosts your bank balance and you're back cruising the streets looking for work.

So it goes with calls back to Ghostbusters HQ for fresh supplies and more men. All the time the game is picking up speed and periodically enough Roamers get together to form the dreaded Stay-Puft Man.

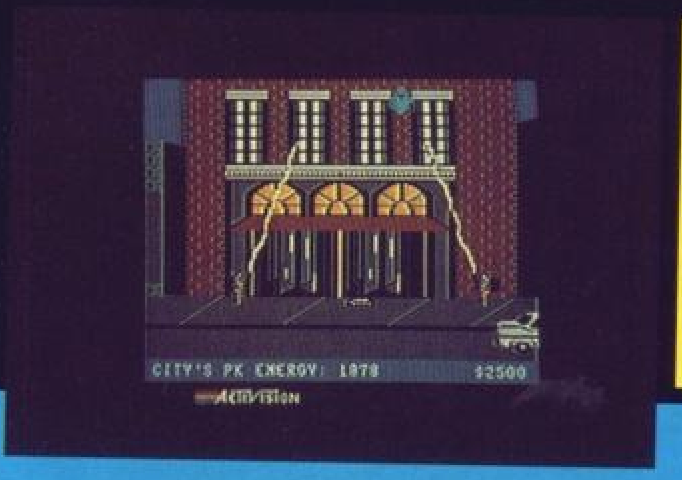
I really got to hate this 100ft. high pile of walking marshmallow. Not only does he trample over buildings, you have to pay for any damage caused. Just when I was beginning to build up a healthy bank balance on he stomps to lose me four thousand bucks per block! Get rid of him, quickly.

Ultimately you must confront the terror of Zuul and get two men into the Temple entrance. This is not so straightforward as you have to be well in credit when that moment comes. Needless to say, the Stay-Puft Man has prevented me attaining this state as yet.

**GHOSTBUSTERS, FOR Commordore 64 from Activision. Format: cassette. Price: £10.99 (disc version £19.99). Also available for Spectrum 48K (£9.99); MSX and other leading systems to follow. Overall rating; KK**

*Top:* **The Ghost Gang prepare to face their ultimate test in the movie.**
*Right:* **The main map screen of the game. Roamers converge on Zuul's Temple.**



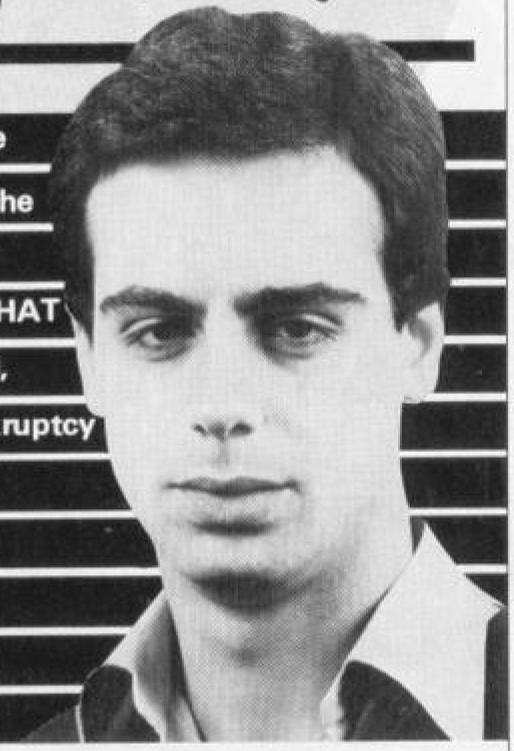




**Traping a Limer. Fire the ion beams then activate the trap, screen centre.**

# The FERRET

## Tony Takoushi

**Our Man on the Inside reveals the embarrassing truth behind THAT Commodore ad, plays the Bankruptcy Blues, charts Rises and Falls and solves an age-old mystery . . .**



RUMOUR HAS it that things did not quite go to plan with the Commodore TV ad featuring an elephant in a boxing ring. It appears that after four hours setting up the elephant in its shorts and gloves (it was originally due to tower menacingly over its human rival), when filming began, the elephant rose and a loud rip was heard…its shorts had ripped and they had to film around this little problem…Which is why the Heffelump don't stand up…

**HAS UNCLE Clive lost his marbles, I wonder? After reading that five of the old Imagine team are now involved in the rewriting of *Bandersnatch* on the QL, I learn that of the five people stated to be involved in the relaunch, only *two* are programmers (Dave Lawson and Jake Glover), both of whom programmed on the 6502 previously. The others seem to be PR types…**

**IT NEVER ceases to amaze me that the people involved in the micro industry have such weird and wonderful backgrounds. Take David Ward, a director of Ocean Software. He used to have a company that rented out theatrical scenery and props for commercials and other usages. He started with a humble mail order company called Spectrum and then changed its name to Ocean. The rest is history…**

. ' . . . . . MUMBLE . . . MUMBLE . . . mumble . . . Creative Sparks have gone bust!'

What? I'd better give my Scottish friend Gordon Reid [their software manager] a ring.

Click.

Hello Gordon, it's The Ferret here. I'll come straight to the point. I've heard rumours that Creative Sparks has gone bust.

Pause.

'Can your mother stitch, son?'

Er, sorry, Gordon, I'm just after some clarification.

'Och well, I'll tell you — we've sacked all 18 in-house programmers and decided to re-employ six of them as freelancers. I think the others are a wee bit unhappy, son.'

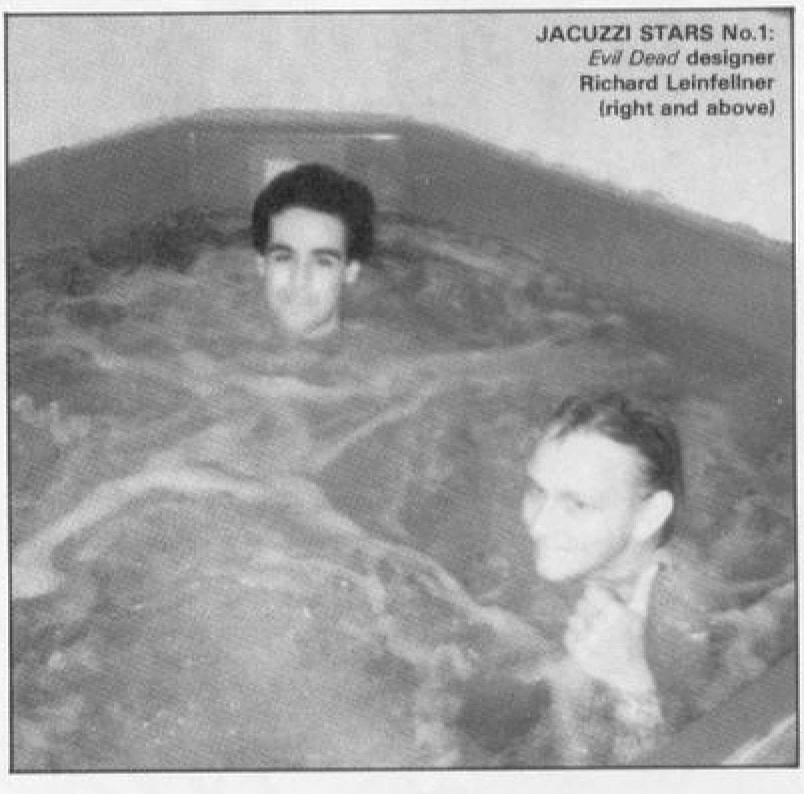
Oh I see - so it's probably just some unhappy programmers spreading doom and gloom?

'I'd imagine so. We will still be producing games, with our next releases being after the Christmas period'.

**NO NO, tell me it's not true! I hear that Mylstar, the US company that bought you *Mach3/Cobra Command* and *Us vs Them* has gone bust. this (hopefully) means that their machines will be rather cheap to buy second-hand they current cost £1695 and £1897 for the stand-up and booth versions respectively.**

**The reason for their apparent collapse? The bad state of the arcade market and numerous hardware faults in their machines.**





**JACUZZI STARS No.1:** ***Evil Dead*** **designer Richard Leinfellner (right and above)**

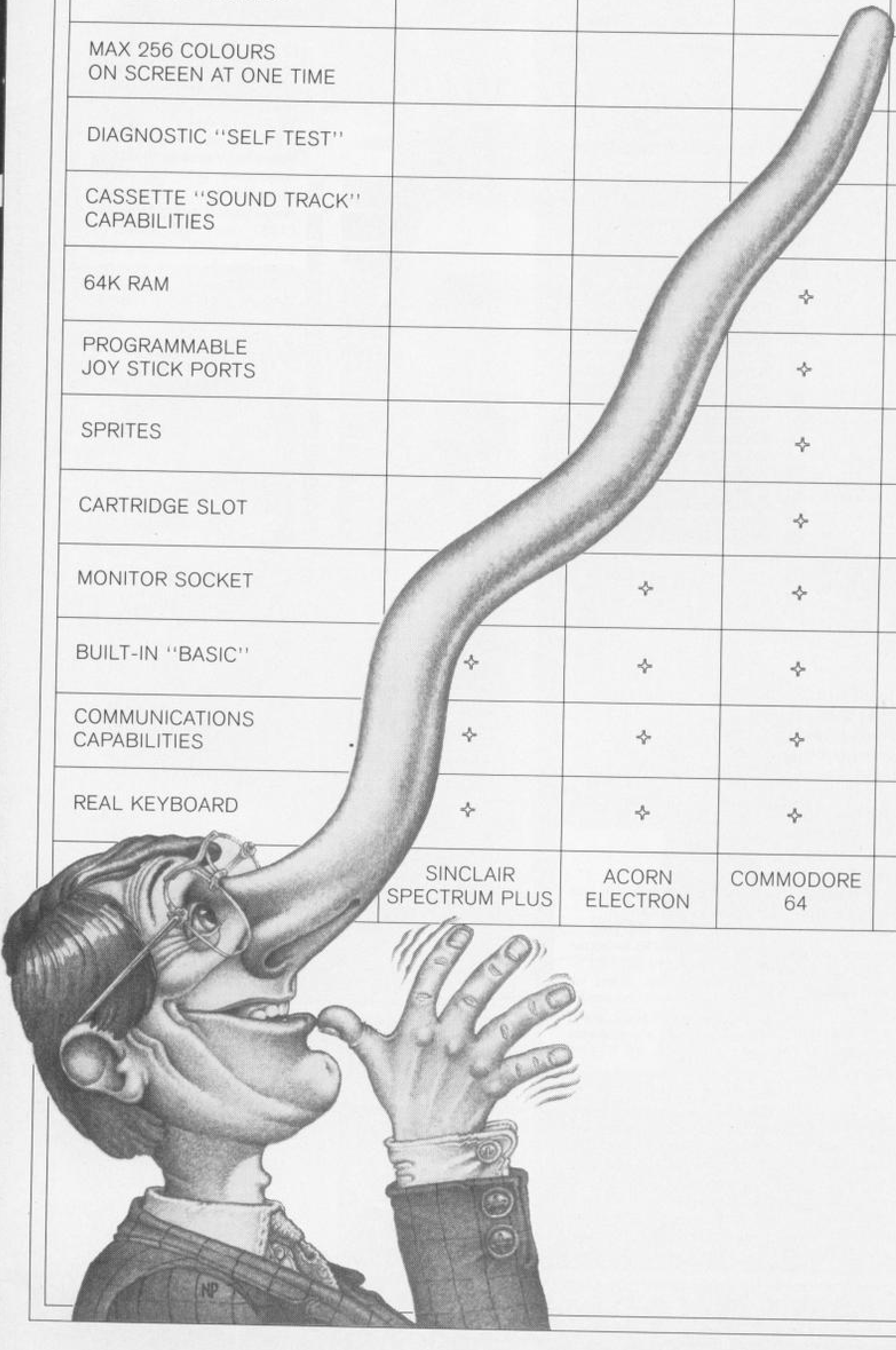
TONY CROWTHER — the man who bought you *Suicide Express, Son of Blagger* and *Potty Pigeon* (to name but a few) — has left Gremlin Graphics and set up a new company called Wizard Development. His new game *Gryphon* (multi-level arcade game) will shortly be released for the Commodore 64*mulit-level arcade game.'*

Where did he get the title *Gryphon* from? He just happened to be watching a well known bank commercial on television…Those of you buying Crowther's latest game *Suicide Express* will find that it does not have Currah Speech in it as advertised. The reason for these changes could have a little to do with Tony's leaving Gremlin, I gather…..

***DID YOU ever wonder why the classic arcade game Donkey Kong was DONKEY Kong? Well, Atari tell me that the Japanese gentleman who did the translation made a mistake and wrote Donkey instead of MONKEY!***

# GOSSIP…GOSSIP…GOSSIP.

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|---|---|---|---|---|
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| MAX 256 COLOURS ON SCREEN AT ONE TIME | | | | ✧ |
| DIAGNOSTIC "SELF TEST" | | | | ✧ |
| CASSETTE "SOUND TRACK" CAPABILITIES | | | | ✧ |
| 64K RAM | | | ✧ | ✧ |
| PROGRAMMABLE JOY STICK PORTS | | | ✧ | ✧ |
| SPRITES | | | ✧ | ✧ |
| CARTRIDGE SLOT | | | ✧ | ✧ |
| MONITOR SOCKET | | ✧ | ✧ | ✧ |
| BUILT-IN "BASIC" | ✧ | ✧ | ✧ | ✧ |
| COMMUNICATIONS CAPABILITIES | ✧ | ✧ | ✧ | ✧ |
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# PICK OF THE MONTH

K K K

## SCHOOL DAZE
## Spectrum 48K




**A short-panted FIN FAHEY finds Microshpere's SKOOL DAZE just too, too disturbingly like the real thing.**

# DOWN WITH SKOOL!

THIS is a game on a theme of horror and despair, a game populated by wandering monsters, a game where no-one can really be trusted, and everyone is a potential enemy.

Through this alien landscape of paranoia and imminent catastrophe you must make your way, your single goal, to wrench victory from the jaws of universal defeat.

For this is the strange world of *Skool Daze*, where even in the eye of God you are a mere pupil.

Microsphere master programmer David Reidie has it off to a T. The claustrophobia and creeping terror of the education system are laid bare for all to see.

We start with a normal day somewhere near the end of term. The Head (Mr. Whacker, who bears a close resemblance to Mr.T) has closeted in his safe a fearful indictment of your year's performance, your School Report. There is only one way out. You must open that safe. Each of the teachers possesses one letter of the safe code and they'll only reveal it if they are first disoriented and then knocked down.

The first is easy, you simply use your trusty catapult, Beakslayer, but for the second you have to set all the school trophy shields flashing, by hitting them. This is done by either bouncing a pellet of the balding pate of one of the monstrous masters, or by clobbering one of the other boys and climbing on his back (real Nature-red-in-tooth-and-claw stuff!).

But beware, 'cos just as in real life, you'll get lines to do if caught doing anything out of order, and there are a lot of things you can do wrong, from missing class to jumping in the corridors, and the school sneak is always ready to squeal on you. 10,000 lines and you're sent home.

So much for the tortuous plot. It's the brilliantly realised graphics that make *School Daze* such a treat to play. The school building is good as you scroll through its boxy structure, but it's the characters that really stand out. You can insert your own names for all the main characters, from Angelface the school bully to Mr. Creak the History Master. Somehow Microsphere have inserted real individuality into what are very spare cartoon miniatures. They all have a life of their own, and even as you sit through another dreary geography lesson with Mr. Withit, the swinging Geography teacher, things are going on around you in the other class-rooms and corridors.

The teacher characters are capable of a wide range of animation, from falling over to gesturing and writing on the blackboard.

The only flaw, if it is one, is that the game is so fascinating to watch, I found it hard to play seriously, and ended up mischievously knocking over the teachers and wellying the school bully at regular intervals.

An achievement in social realism and fun to play too.

From: Microsphere
Format: cassette
Price: £5.95
Graphics: Shows real aptitude for this subject.
Playability: Has a good grasp of basics but could try harder.
Addictiveness: Stay after school.





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LET'S GET CRITICAL...

# THE BIG K Reviews!

COMPUTER GAMES
VIDEO GAMES □ UTILITIES

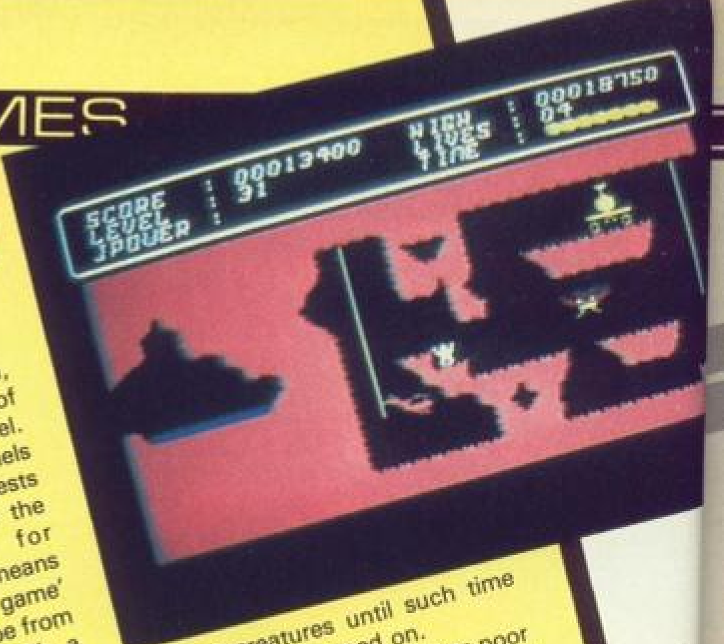
How we rate them –

KKK = Magnifico!
KK = Good-o
K = So-So
None = No-No

Reviewers –

CAVE FIGHTER KK

## Killer Cavern




To hell with the pack description, let's have a realistic summary of what's going on at screen level. A flea runs through tunnels killing psychiatrists' ink-blot tests with a peashooter. This, in the lingo reserved solely for manufacturers of games, means 'an all-action, all-jumping game' with 'sixteen aliens' to wipe from the face of the earth, with a peashooter.

The action starts in a cave with a rope dangling over the head of our man. You make him jump onto the rope with one of his — gasp, shock, horror, probe — five jumping levels. He smashes his brains to bits on the outcrop overhead and dies an insipid death. There are thiry-one screens in all, each almost identical, bar a few minor details, and each filled with an ever-increasing collection of beasts, baddies and splodges of hardened porridge, all, as one might expect, lethal.

And so, this miniscule character runs around his caverns, sliding up and down ropes, dodging and demolishing mean creatures until such time as he gets stomped on.

If it wasn't for the rather poor graphics this would be a good game. It's difficult to get excited about a pair of pixels, even if they are involved in a do-or-die situation with another pair of pixels. What we really need is great fat monsters chasing after a real hero who can smash down walls with his tongue. **K.A.**

**From:** BUBBLE BUS
**Format:** cassette
**Price:** £6.95
**Graphics:** K
**Playability:** KK
**Addictiveness:** KK

INSURGENCY Spectrum 48K K

## Rebellious Stuff

A VERY clever two-hander, government vs. guerrillas in a third world country. The uniformed mob, working to a budget, get 20 combat units (infantry, armour, choppers, jets and artillery) plus support (engineers, trucks, intellignece, medics and command), while the black pyjama brigade make do with 12 service units (guerrillas with or without radios, flak and supply planes) plus spies, command, food and arms supplies.

Having picked their mix, both sides are placed on one of 100 maps showing villages, rivers, bridges, roads, mountains and jungles. Weather reports are given for the next (two week) turn and a more or less accurate forecast for the one after. The guerrillas get some reports from spies, supply units, lay ambushes, give or take food from the locals, lay mines, recruit villagers or move. The government gets equally unreliable intelligence reports, does an aerial reconnaissance sweep, supplies, builds roads and bridges, fortifies villages, gives or takes food, uses transport or moves. News reports give out more unreliable information and, eventually, declares the winner.

A very useful print facility will provide copies of the map and unit breakdowns, useful stuff for serious players as it's very easy to lose track. As in real life, there are no quick short-cuts to victory and, with the guerrillas looking at a 30 turns deadline, both sides must try and accumulate a mass of small pay-offs that will add up to success. Getting all that detail onto a Spectrum window means that everything is pretty small, so you really have to pay attention to detail. Serious stuff. **J.C.**



**From:** CCS
**Format:** Cassette
**Price:** £5.95
**Graphics:** K
**Playability:** KK
**Addictiveness:** K

ATTACK OF THE MUTANT CAMELS KK
ATARI

## Spittin' Image

This game a conversion of the CBM classic by Jeff Minter is a cross between *Defender* and *Return of the Jedi* except the object of this game is to destroy all the camels before they reach their destination.

After doing this you then go through a hypher warp onto the next level which is basically the same thing on a harder level.

There is only one problem with the camels . . . they shoot back — with heat seeking missiles which, if not dodged, will do for you.

The display is a typical Jeff Minter style, such as selecting yur level it starts from *Fer Sure* to *Like Wow!!!* You can also select the power of your missiles which calls the beast-blasting bullet potential.

If you enjoy a fast-pace arcade quality game with definit difference you should add camels to your selection.
S



LLAMAS
**From:** SOFTWARE
**Format:** Cassette
**Price:** £6.99
**Graphics:** KK
**Addictiveness:** KK

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LAMASO
: KK

THE SPIDER AND THE FLY
CBM 64

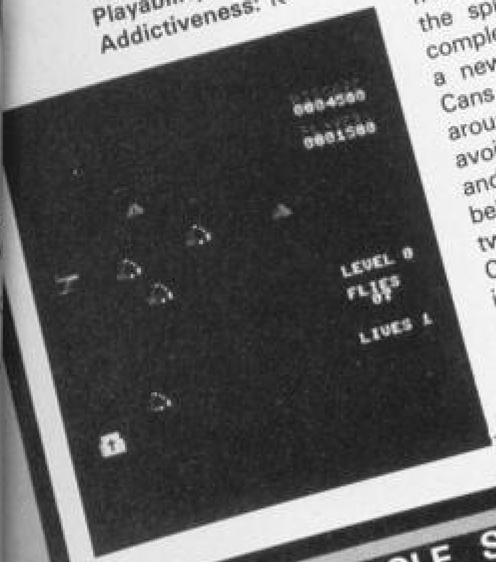
## FLIT FODDER

Possibly something that might appeal to the brutal type who spends endless hours pulling insects apart to see how well they cope with only one leg, no head, or a swim in a bowl of flaming lighter fluid. But only on the condition that they can tolerate pre-Neanderthal graphics.

As a spider, a rather strange beast with a line stuck to his bum, you have helplessly to ensnare (i.e., draw a line around) the flies hovering nearby. The flies drift rather insipidly around the screen and the object of the exercise is to use the web to draw a line around one or more of them, causing them to vanish from the screen. If one touches the spider before the snare is complete the line disappears and a new one has to be started. Cans of fly spray also move around the screen — to be avoided, would you believe — and for some reason, the logic behind which is probably as twisted and tortuous as the Commodore User Guide, a hand is also present. This, too, has disastrous results if touched.

Not particularly entertaining and with a set of instructions that suggest the writer is a sheep **K.A.**

**From:** INTERCEPTOR MICROS
**Format:** Cassette
**Price:** £7.00
**Graphics:** K
**Playability:** K
**Addictiveness:** K







SIR LANCELOT
16K Spectrum
K K K

## HAVE AT YE, SIR CLIVE

A minor miracle from Stephen Cargill who's managed to squeeze 24 very different screens, complete with seven monsters and moving staircases, into 16K, making this is one of the best games available for the junior Spectrum while not being disgraced in the 48K's league.

Sir Lancelot has to collect all the treasures on each screen, dodging the monsters, before he can get to the exit and on to the next, in his quest for the Holy Grail, with only four lives in hand. Sir L's animation is very well done and with only three actions — left, right and jump — he's pretty easy to control on the keyboard; though, as ever, even more so with a stick. the monsters are much wittier than most and include dogs birds, Pac-Man, a cooking pot and bouncing balls. Timing is of the essence to avoid them, because you can't do anything to them. One nice feature is the red carpet on which the ghosts of slain Lancelots ascend to heaven. Whoops, what a giveaway! **J.C.**

**From:** MELBOURNE HOUSE
**Format:** cassette K
**Price:** £5.95
**Graphics:** KKK
**Playability:** KKK
**Addictiveness:** KK

ERIK THE VIKING
Spectrum 48K
K K K

## WHERE'S THE SPAM?

Last Christmas the outstanding, best-selling and prize-winning children's book was *Erik the Viking* by Terry Jones, with illustrations by Michael Foreman. This Yule Mosaic, who are almost alone in the extremely intriguing, and potentially explosive middleground between book and software publishing, are hoping that the full graphic computer game of the book will be as successful. The pedigree is certainly there, with the programming done by Level 9 of text adventure fame, here embarking on their first ever graphics project.

Your task is the same as Erik The Book's was — to rescue your kidnapped family from the evil Dogfighters.

You wake on a mountaintop and must recover the various items left behind or hidden during the fracsas at the farm, assemble your friends, launch your ship, the Golden Dragon, and set sail into the unknown. The game has your usual adventure game vocabulary and style, immediately recognisable to Level 9 fans, with a useful guide in the accompanying booklet. the sketch and paint graphics are excellent, if a little slow (on the Spectrum at least) and, under the circs, do a reasonably good job of approximating Foreman's beautiful artwork in the book.

My only query is whether it might not be a bit hard for the age group which the book was aimed at, but then I'm probably underestimating the precocious little horrors, and anyway there's always the hint sheet. **J.C.**

**From:** MOSAIC
**Other:** BBC, CBM 64.
**Format:** cassette
**Price:** £9.95
**Graphics:** KKK
**Playability:** KKK
**Addictiveness:** KK

## THE LOVE ORACLE SPECTRUM 48K K

What do I want from life? What indeed. 'You want to give creative expression to your feelings'. (I do?) Thus spake *The Love Oracle* — a new electronic version of another old literary favourite, the I Ching. 'What is the most important attitude to adopt?' I asked, humbly, 'Do not underestimate evil' came the stern reply. Ow.

The ancient Chinese I Ching is a tome composed of many different descriptive vignettes or 'hexagrams'. Inside its leaves float unseen spirits of sages. In order to consult these dead experts you throw a series of coins. It is the resulting pattern that gives you your personal hexagram.

All this makes the Ching a natural candidate for translation. A mammoth sorting job that computers excel at. And if the one-liners that purport to seal your fate on screen seem a little trite, you can always expand on them by looking them up in the hard copy that comes in the package.

But all does not bode well. The opening dedication to the book ranks as one of the most convoluted tautologies I've ever read. 'Affection as the essential principle of relatedness is of the greatest importance in all relationships . . .' No kidding?

So: a fairly smooth rendition but not a patch on the erudition of the original I Ching. Even if you didn't 'believe' in the original, it was still a dashed good read. Could this error have been the same? I'm not sure — **N.X.**

From: SOLAR PUBLISHING
Format: cassette
Price: £14.95
Graphics: KK
Playability: K
Addictiveness: K




K K K

## RIVER RAID Spectrum 48K

### NEXT YEAR — THE THAMES?

Convincing conversion of Carol Shaw's celebrated blast 'em up that not surprisingly earned a podium in the BIG K Hall of Fame some time back. Gamesters worth their salt will already know the scenario well. The objective is to fly the River of Death and crank up mega-scores by totalling battleships, choppers, enemy jets, balloons — in fact pretty much anything that moves.

So far so what, some may say! Well the magic comes via the design. The vertically scrolling river is divided by bridges into sections which further subdivide into watery warzones of unpredictable peril. Initially enemy resistance is fairly puny but the pace soon hots up. Beginning with Bridge Seven land-based tanks lob bombware carelessly into your path, and come sector seventeen the sky is aflame with the flak from various gunships 'n' off-shore armoury.

To complicate matters further there's a constant need to refuel and a great number of unsympathetic animation although the action does seem somewhat diluted in comparison with its Atari cousins. Y'know, I'm sure the ROMs are wilder! Even so this is more than lukewarm and in my estimation something of a compulsory purchase. —**S.K.**

**From:** ACTIVISION
**Other versions:** CBM 64, ATARI HOME CIMPUTERS, ATARI VCS, COLECO
**Format:** cassette
**Price:** £7.95
**Graphics:** KK
**Playability:** KKK
**Addictiveness:** KKK

## HEATHROW AIR TRAFFIC CONTROLLER CBM 64

K K

### But Does It Go On Strike

HATC resembles a full-blown simulation, an lo! indeed it was written by a real Heathrow Air Traffic Controller, one Mike Male, a name I had a hard time believing, but there's a photo of the man on the cover, so there you go. In fact, like much other stall these days, its a conversion from an earlier (BBC) version.

If you work your way through the instructions, you'll find yourself 'playing' through a course of exercises designed to give you the ability to direct masses of airliners safely onto the Heathrow tarmac. Don't ask me what you subsequently do with your new skill. By the looks of it, I wouldn't recommend becoming an air traffic controller, not unless you get a kick out of ulcers. But of course irresponsible people like me would just attempt to create mid-air collisions out of nothing. -**F.F.**

**From:** HEWSON CONSULTANTS
**Format:** cassette
**Price:** £7.95
**Graphics:** K
**Playability:** KK
**Addictiveness:** KKK

## AMBUSH CBM 64

### SPRITE HAWK

**An exercise in sprite creation, this one. Various different sprites, probably harassed refugees from other games, drift in from the top of the screen. Funny faces, birds, spaceships, that kind of thing. Unluckily for them there's the usual laser base/ spaceship spitting hi-tech death hanging around. Out of sheer desperation they split into two when you hit them.**

**Joystick control right/ left/ up/ down, fire button controls laser. If the player possesses dogged tenacity and high boredom threshold, special twin lasers are awarded in frame 24. The Hall of Fame involves a deeply authentic and primitive procedure of using the joystick and fire button to choose each and every single letter of a name. Yawn. —F.F.**

**From:** VIRGIN GAMES
**Format:** cassette
**Price:** £7.95
**Graphics:** K
**Playability:** K
**Addictiveness:** K

## GISBURNE'S CASTLE BBC B

### Tales of a Belted Churl

'Twas with more than a little frustration that I emptied the contents of my quiver into the pudgy posterior of a passing churl. 'What the fudge am I supposed to be doing?' I cried. I know that I'm meant to be rescuing the comely Marian from the dodgy dungeons of the ghastly Guy o' Gisburne (that goes without saying), but how in hootin' heck?

I've scuffed my little Lincoln green booties something rotten trudging from one field to another, all to no avail. Indeed, apart from an odd felon the game seems devoid of any sentient life.

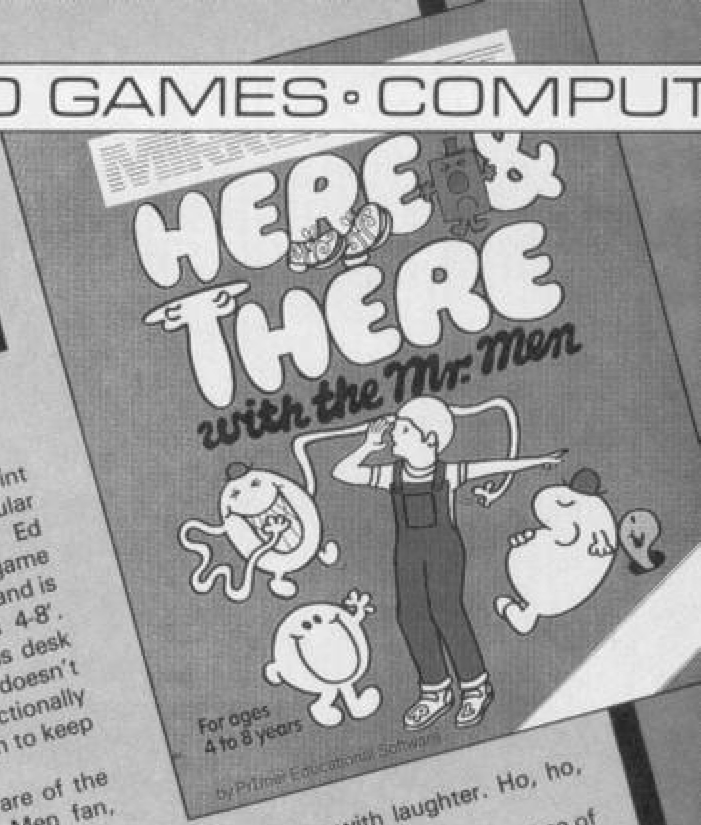
I can't even find the castle! Now either I've lost more than a few brain cells overnight or thsi prog's design sucks. Naturally I suspect the latter. Stoutly claiming to be an arcade adventure, the game seemingly fails on both counts. There's far too little happening to warrant any claim to honest arcadia and as an adventure it's a complete non-starter. Marian, if you're listening, don't hold your breath waiting, OK? I think you may be in for the duration… —**S.K.**

**From:** MARTECH/SOFTWARE COMMUNICATIONS
**Format:** cassette
**Price:** £7.95
**Graphics:** K
**Playability:** None
**Addictiveness:** None









## HERE AND THERE WITH THE MR. MEN
## Spectrum 48K KK

### Ho, ho, ho

Before I begin, I'd like to point out that there is no particular reason why the Reviews Ed should hand me a Mr. Men game that teaches left from right and is clearly marked 'For Ages 4-8'. Just because I fell into his desk five times last week doesn't mean that I am directionally dyslexic. He should learn to keep his drawers closed.

Assuming that you are of the right age, are a Mr. Men fan, have a younger sibling in mind — or are simply a dimbo — *Here and There* is a well crafted and cheerful educational compilation. There are four short and simple programs with clear, FAT, Mr Mensprites and a booklet containing easy-to-follow instructions. Each section is more complex than the last, and requires increased planning and thinking ahead to obtain the reward (an animated sequence).

The first shows pieces of a puzzle which must be aligned exactly before they spin together to reveal a portrait of Mr. Tickle.

We then progress to a bit of route planning. You must guide the Tickle chappie's arm through the geography of Mr. Grumpy's house. This is doen by tapping in a series of commands in advance (left, right, up, down etc). When you hit 'enter', Mr Tickle's arm will speed round the corners and tickle Mr. Grumpy making him convulse with laughter. Ho, ho, ho.

The last sequence is a game of draughts played with Mr. Men as pieces. Again you direct your players with left and right commands.

Altogether a solid piece of worthyware from Mirrorsoft. Hang on — perhaps *Her and There* was created with Mr. Maxwell in mind? He also seems to have problems distinguishing left from right! — **N.X.**

**From:** MIRRORSOFT
**Format:** cassette
**Price:** £7.95
**Graphics:** KK
**Playability:** KK
**Addictiveness:** K

## THE MYSTERY OF THE JAVA STAR KK
## BBC B

### RUBY PRIZE

Not an adventure, as the packaging implies, but an amusing four-part puzzle-test for undemanding explorers. Those that have stumbled across an old ship's log before will know the scam. While pursuing the log you discover that somewhere deep beneath the Carribean lies a magnificent treasure, the mysterious Java Star ruby. With nought but a tattered map as guide, you must organise an expedition, gather your resources and set off across the Atlantic. Each part of the quest loads separately and naturally you're requested to complete each section in order. There are three levels of difficulty to choose from (although the differences between play are minimal) and enough stumpers to fill a wet Sunday afternoon. Your journey climaxes with a modest slice of arcadia in which you dive beneath the ocean for the sunken ship. Although this transpires to be rather less than perilous your oxygen quota is somewhat mean so care must be taken below the wreck's decks (watch out for those rotting hatches!). —**S.K.**

**From:** SHARDS SOFTWARE
**Format:** cassette
**Price:** £7.95
**Graphics:** K
**Playability:** KK
**Addictiveness:** KK

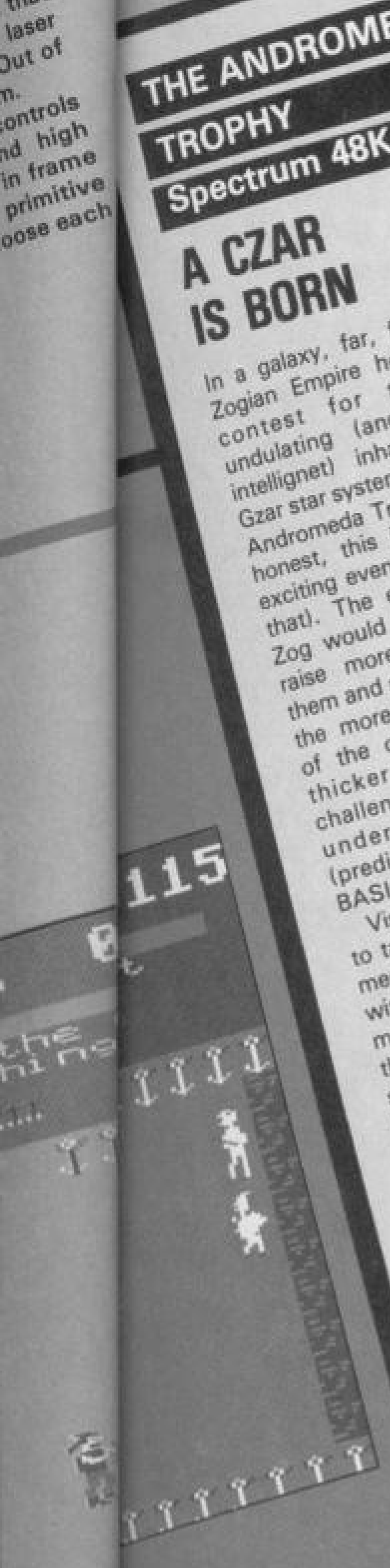
## THE ANDROMEDA TROPHY
## Spectrum 48K

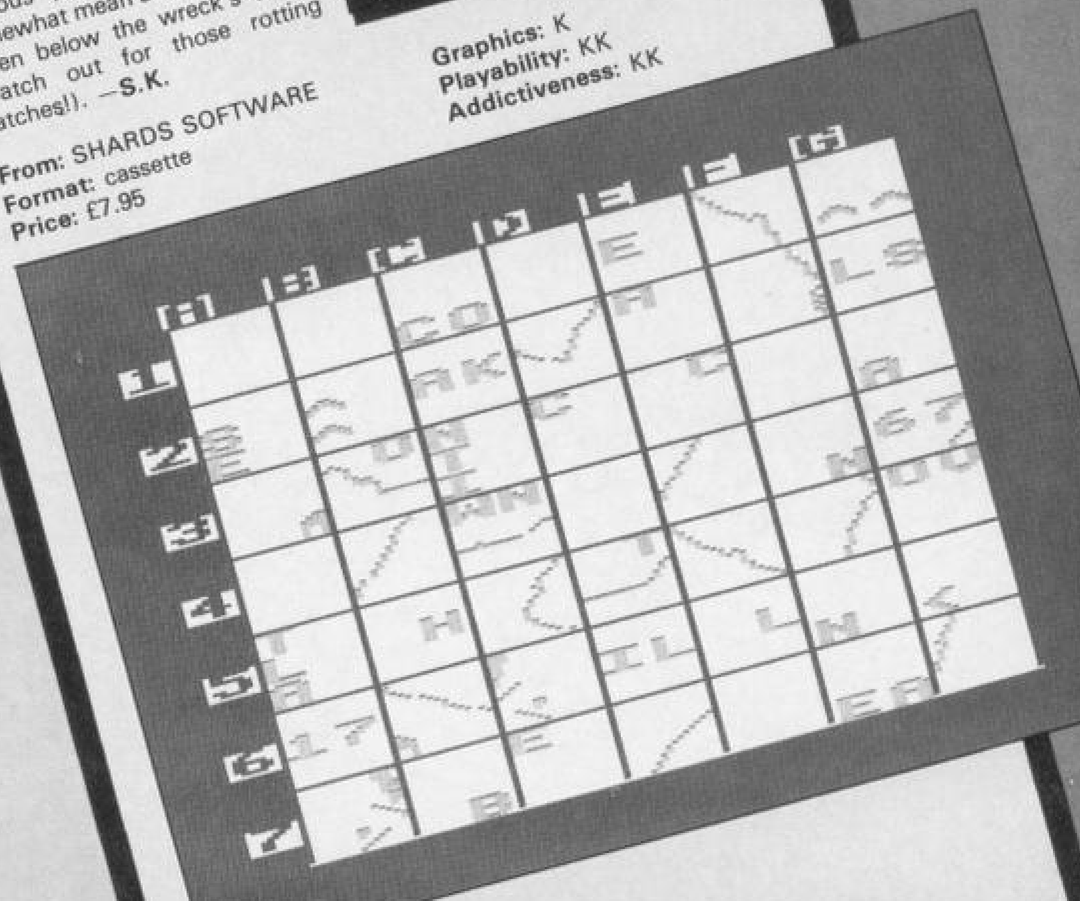
### A CZAR IS BORN

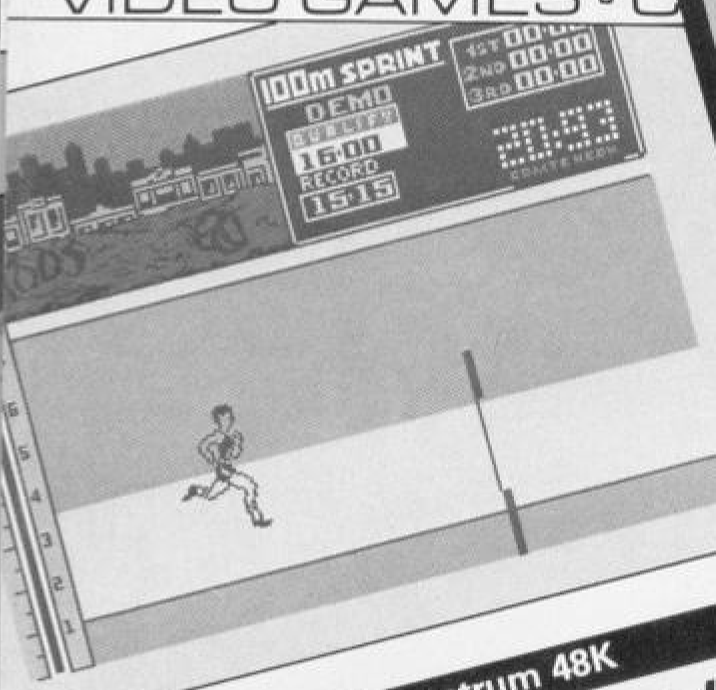
In a galaxy, far, far away, the Zogian Empire host an annual contest for the curious, undulating (and not entirely intellignet) inhabitants of the Gzar star system. The prize is the Andromeda Trophy! Now, to be honest, this isn't a particularly exciting event (or prize come to that). The entire population of Zog would be hard pressed to raise more than 2K between them and some of denizens from the more impoverished sectors of the outer planets are even thicker. consequently the challenge level is painfully undernourished and (predictably) it's written in BASIC.

Visiting Earthlets are advised to take the 'This will strain your mental powers to the limit!' claim with more than a pinch of salt! I mean, I went through the entire thing (which includes a couple of simple mazes and a Simon-touch-me-in-sequence routine) in less than fifteen minutes Three-year-olds will doubtless do it quicker. All in all, unlikely to test the mental prowess of the average house brick. —**S.K.**

**From:** FINSBURY
**Format:** cassette
**Price:** £5.95
**Graphics:** None
**Playability:** None
**Addictiveness:** None








## SPORTS HERO Spectrum 48K

K

# Healthy, Wealthy and Dumbo

From zero to hero: a moving tale. Our man begins his career on the urban streets and makes his way in leaps and bounds to the University team and hence the Olympic stadium. He must triumph in all events — the 100 metre sprint, the long jump, 110 metre hurdles and the pole vault. If he fails, he hangs his head in shame and expletes.

There's a lot of information packed in the *Sports Hero* screen. A scrolling background displays the forum you're in: a light board shows placings, qualifying times, stopwatch and speedometer. And, of course, there's you, sweating it out on the track in the foreground.

But here's the rub. You really will be sweating it out in the foreground. Because the only way to stay inside the qualifying time is to punch your RUN button repeatedly. I mean fast as Hell.

Could this at least be one of those exciting games we've all been warned about that is said to cause all sorts of physiological wotsits? Since *Sports Hero* I've become an adherent of the view that too many physical jerks can be an unhealthy thing. Remember Jim Fixx — and be warned. —**N.X.**

**From:** MELBOURNE HOUSE
**Format:** cassette
**Price:** £6.95
**Graphics:** KK
**Playability:** K
**Addictiveness:** none

## THE PRINCE Spectrum 48K

K K K

# THE SMYLER WITH THE KNIFE

Any game that takes Machiavelli's famous treatise on gaining and keeping power is going to have to be pretty cunning and underhand, but this very well presented four-player adventure certainly does justice to old Niccolo. Each player runs a specific character, each with different attributes; the landowner can provide protection, the cleric grace, the merchant cash and the tipstaff justice. All four are looking to locate an object and a work that constitute the 'tokens' needed to gain the vacant post of Lore master.

The game takes place inside a castle, clearly as large, if not larger, than Gormenghast, which houses 17 non-player characters, the Prince himself, a banker to handle cash transactions, a dealer in all kinds of useful odds and ends and an assortment of henchmen, who can assault and steal from other players, and spies. Each player can recruit a henchman and a spy.

Players are given codes which are needed to access their characters and have 10 inputs at a time. However, apart from grappling with the computer, finding out what you can do, where things are, *what use they* are and all the usual adventure problems, there's a whole other side to the game, the interaction between the players, away from the terminal. Here, as in *Diplomacy*, there are no rules at all — lies, deception, betrayal, threats, blackmail, bribery and the double-cross, anything goes. Oh, it's all good, clean fun in Castle Ravenscrag. The big problem of course is getting four people together for long enough, but this could be just the thing for those long winter evenings and miserable weekends. The owner of the game does have a hideous advantage in that playing solo will let you build up a map very quickly. Which is entirely within the spirit of the game. **J.C.**

**From:** CCS
**Format:** Cassette
**Price:** £7.95
**Graphics:** N/A
**Playability:** KKK
**Addictiveness:** KKK




## WAR ZONE Spectrum 48K

K K K

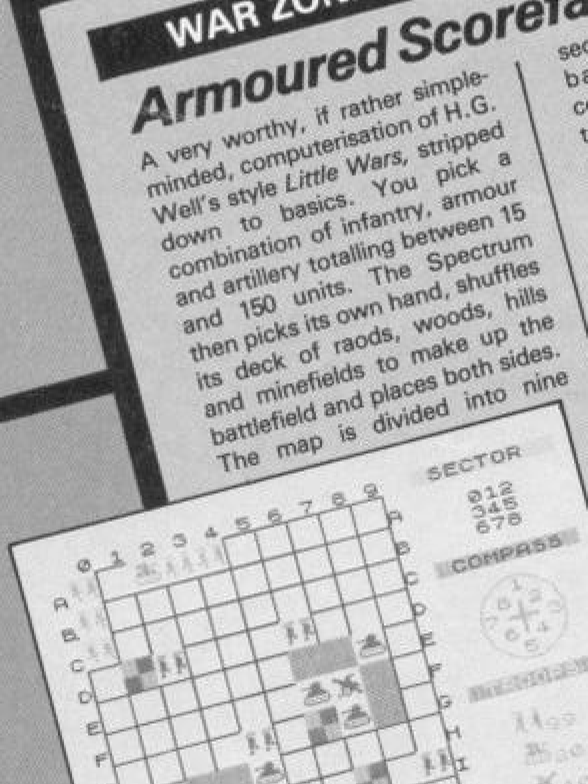
# Armoured Scorefare

A very worthy, if rather simple-minded, computerisation of H.G. Well's style *Little Wars*, stripped down to basics. You pick a combination of infantry, armour and artillery totalling between 15 and 150 units. The Spectrum then picks its own hand, shuffles its deck of raods, woods, hills and minefields to make up the battlefield and places both sides. The map is divided into nine sectors, top left being your home base, bottom right the computer's, and the side that takes over the other's base, or gets a 3:1 superiority, wins. You only get to see one sector at a time, and then only if you have at least one unit in it.

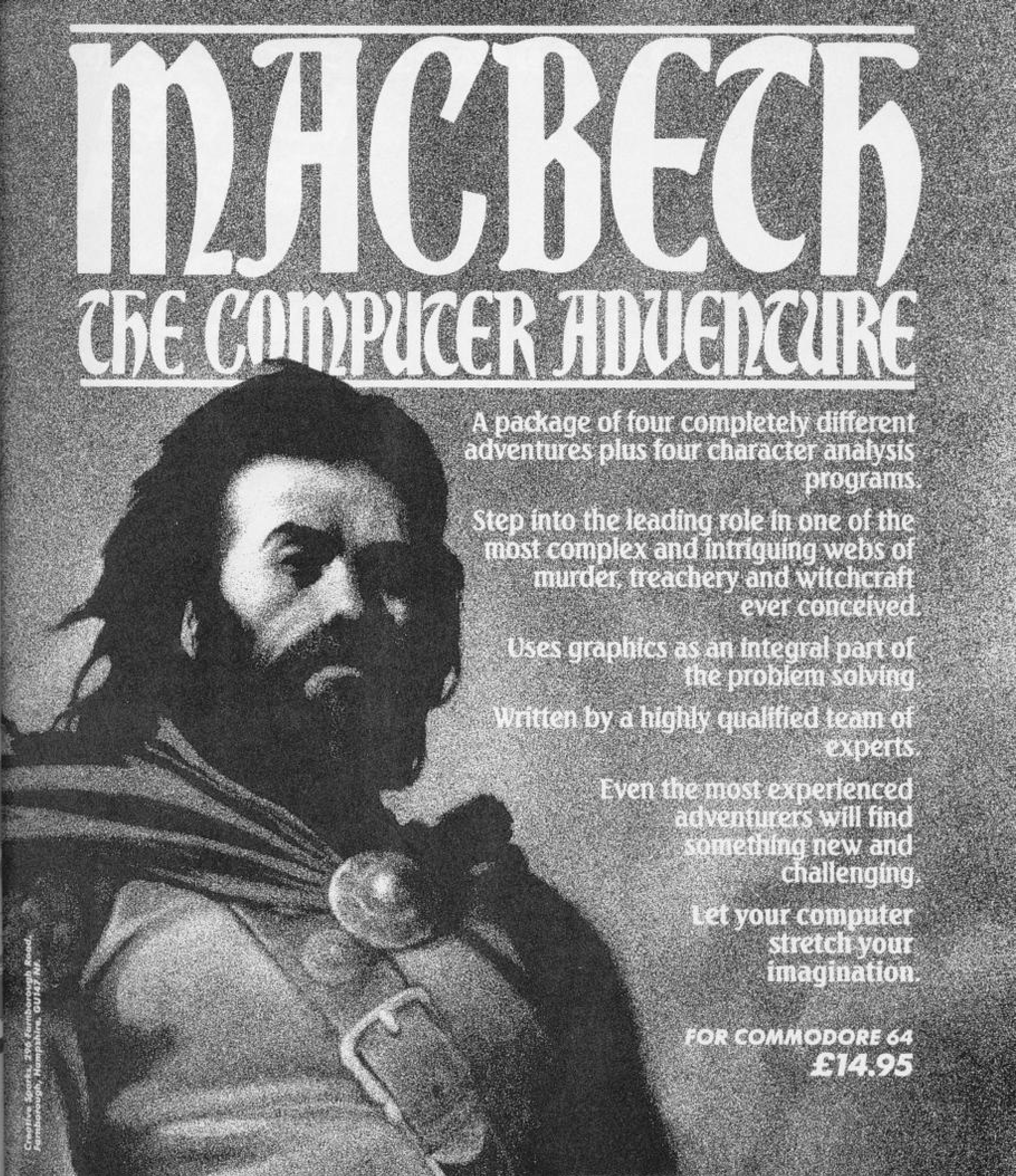
So, with every map completely different, you have to switch back and forward between sectors to keep the overall picture clear before committing units.

The cap is divided into squares, with eight-way movement which, as any pre-hex wargamer can tell you, puts tremendous emphasis on the use of diagonal movement. Infantry moves four squares at at time, armour three, artillery two, though hills and woods slow movement while roads speed it up. Artillery has a longer firing range than armour, both getting an advantage from hilltops.

Watching the computer take its turn, it sure seems like it's giving itself plenty of the best of it, but I guess it evens out. After taking a couple of hammerings I found a surefire technique for winning — does the name J.F.C. Fuller mean anything to you? Nidge, nudge, wink, wink, say no more. Good, clear graphics, smooth action, simple and straightforward control systems. Not for the hardened wargamer, but good fun in true Wellsian spirit. **J.C.**




**From:** CCS
**Format:** Cassette
**Price:** £7.95
**Graphics:** KK
**Playability:** KKK
**Addictiveness:** KKK




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KALAH **K**

CBM 64

## Beard of the Prophet

Desert life must be pretty short on fun if, as this game would have us believe, Kalah has wasted more time in desert countries than any other pursuit. It is a very simple board game involving moving counters around a set of two rows of pits with two larger pits at the end. The object is to force your opponent into a position in which he cannot make a move or to collect over half the counters in your end pit. Talent Computer Systems have spent so much time on the trimmings — excellent graphics, and music, that they have lost sight of the objective which is to produce an enjoyable and addictive game. Talent's Kalah is a sheep in wolf's clothing. Chess has depth that is lacking in Kalah. —**D.G.**

**Maker:** TALENT COMPUTER SYSTEMS
**Format:** cassette/disc
**Price:** £7.95 (disc) £9.95

**Graphics:** KKK
**Playability:** K
**Addictiveness:** K
**Overall:** K

CLASSIC ADVENTURE **K K**

CBM 64

## KLASSIC

Playing this is like redicovering Buddy Holly all over again. *Classic Adventure* is a cover version of the very first adventure of all. Simply titled *Adventure*, it was designed and ran on a mainframe, and gee, it sure was big — in fact it's still one of the biggest AGs on the market.

None of your namby-pamby messing around with graphics here, just pure text, and lots of it. Virtually every Adventure convention we still use sprang fully fledged from this prototype. Inventory, two-work commands, the inevitable torch that you have to keep lit somehow, the lot.

Quite frankly, it all goes to show how little the genre has progressed since then. I enjoyed (re)playing this more than many newer offerings — it has a freshness and wit that comes from having been written for fun not profit. For jaded hacks like me, new twists have been put in many of the problems. Without giving too much away, the old method for chasing away the snake will no longer serve you here.

I think that everyone should have a copy of this for reference, but then I think the same about Joy Division's first album. **F.F.**

**Maker:** MELBOURNE HOUSE
**Format:** cassette
**Price:** £6.95

**Graphics:** NONE
**Playability:** KK
**Addictiveness:** KK

MESSAGE FROM ANDROMEDA Spectrum 48K **K**

## MESSAGE PARLOUR

Taciturn space walkabout for interstellar adventurers. While trolling happily through deep space, a rather obtrusive distress call crackles across the wire. As its point of origin is a passing planetoid you're naturally tempted to don your moon boots and investigate. Exactly WHAT there is to investigate, though, remains unclear. Indeed I finally pulled the plug none the wiser for my efforts. Perhaps the call originated from another disgruntled Dorkslayer trapped deep within its database? We may never know. Many of the locations are supported by instantaneous split-screen graphics, but their effect is rather diminished by the total lack of any real descriptive text. 'The control room' is typical of the type of narrative on offer. This locale is only marginally more interesting than 'The red room', or indeed 'The reception room'. The thing informs with all the verbosity of a foreign bus ticket (Infocom eat your heart out). Input is via the standard verb/noun arrangement. All very ho-hum. Those seeking an SF adventure would be better off with either *Snowball* (very tough) from Level 9 or *McKensie* (low-key) from Software Projects. Alternatively you could write your own. Good Space romps are in rather short supply. —**S.K.**

**From:** INTERCEPTOR MICROS
**Format:** Cassette
**Price:** £5.50
**Graphics:** K
**Playability:** K
**Addictiveness:** Pass

GALACTIC PLAGUE **K**

Amstrad

*It's nice* to get an original game on a new computer. I mean, all you usually get are *Pac Man* conversions and *Space Invader* rip offs.

So why can't Amsoft grasp this simple fact and stop dealing out glop like this? *Galactic Plague* revolves around the idea of moving left, right and firing. It's as much fun as bubonic plague but I'm afraid it's not half as addictive. Having not been supplied with a cassette insert I've not been able to suss what I'm trying to bash seven kinds out of but the aliens look suspiciously like ice cream cones. You get an extra man for clearing a sheet, which is about as hard as wiping your nose, and you get all your ships back after completing three sheets — this is slightly more difficult than wiping your nose as the game often crashes and won't let you get to the third screen.

Other marvellous features include explosions that stay on the screen and the speed of a program that's eighty per cent BASIC.

Still, if you've got cataracts, just had a nasty bump on the head and the cat won't play with you no more this could be the piece of software you're looking for. Otherwise ......—**G.L.**

**From:** AMSOFT
**Format:** Cassette
**Price:** £8.50
**Graphics:** K
**Addictiveness:** Ha Ha
**Playability:** Ditto
**Crashability:** KKK

MYSTIC MANSION **K**

CBM 64

Something here from the Apparition's Liberation Front. M.M. rehabilitates the media profile of the average ghost by making one the hero and champion of Truth, Justice and stuff. You play Whitecap, a shape-changing ghost who must travel through the sixty rooms of the afore-mentioned pile collecting treasures (for subsequent redistribution to the poor?).

The ghost is manouevred using the joystick and can change into a gun when the fire button is pressed. Releasing it fires the gun, something you have to do often because the rooms are inhabited by a variety of monsters. These are all pretty boring-looking monochrome sprites, but having zapped them doesn't mean you've solved the room's secret. Each room is an individual problem and you may have to do a fair bit of thinking to get to the treasure, including a hammer, key and a spade.



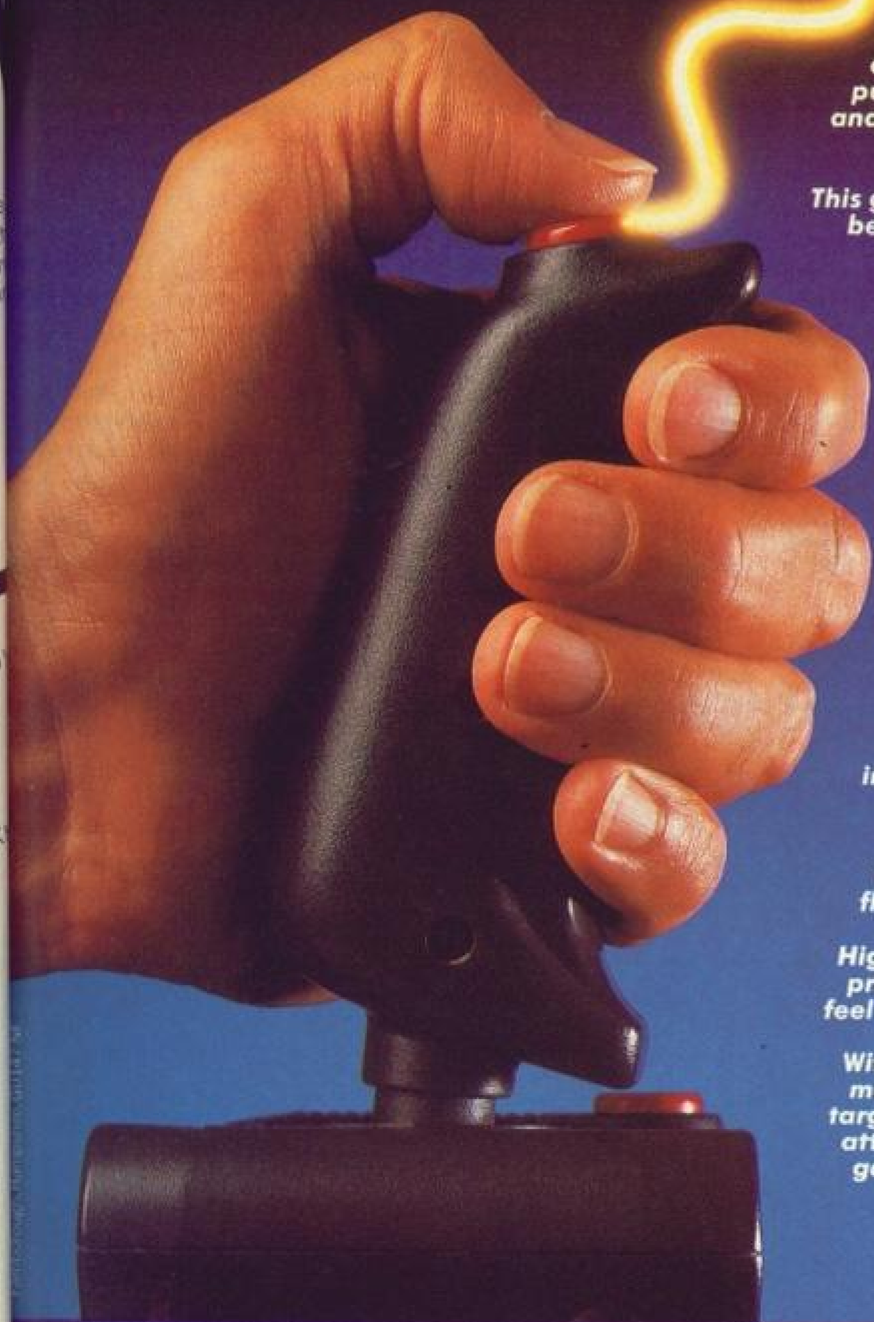
Sooner or later you get to employ them all, and deciding which one gives the game a distinctly Adventurish feel.

Unexciting line graphics, almost no sound, but yet...the game has an undeniable charm, a bit like playing seaside miniature golf. —**F.F.**

**From:** US GOLD SOFTWARE
**Format:** Cassette
**Price:** £8.95
**Graphics:** K
**Playability:** KK
**Addictiveness:**

# QUALITY CONTROL FROM CREATIVE SPARKS ON C64

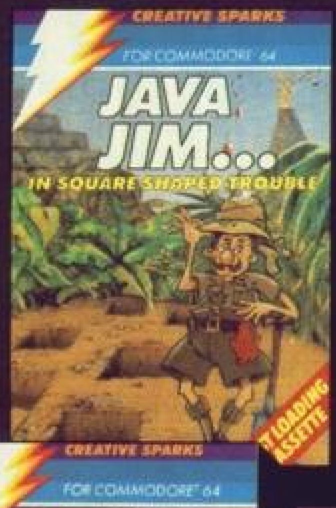
## For those who demand excellence



**JAVA JIM**

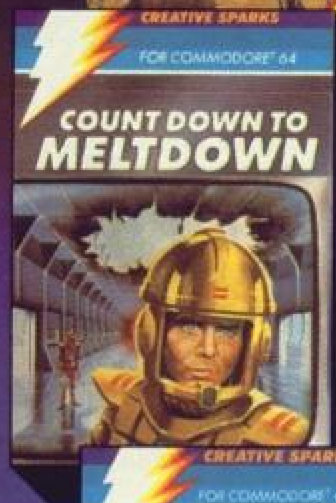
*Guide Java Jim around the screen digging neat square holes as he searches for ancient relics. You will have to avoid the lumps of sizzling lava being continually showered down on Jim from the still active volcano in this highly original fun game.*

*4 full graphic all action screens.*
*20 levels of play.*
*High score feature.*
*Fast loading cassette.*



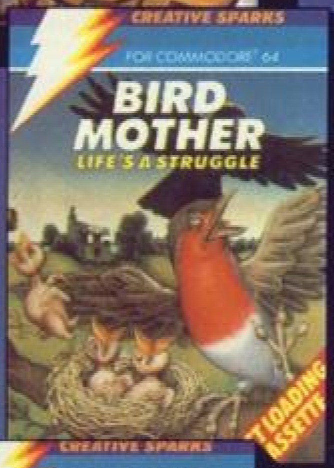

**COUNTDOWN TO MELTDOWN**

*An amazing graphic action adventure game which puts you in charge of a team of androids trying to reach the core of a nuclear reactor before it explodes.*
*This game has over 2000 rooms to be negotiated and every single one of them is in 3D!!*
*Probably the most exciting game yet developed for the C-64.*
*Fast loading cassette.*



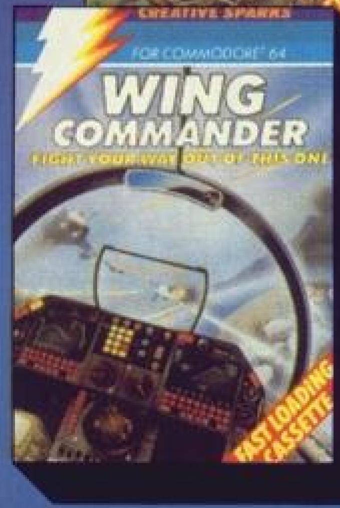

**BIRD MOTHER**

*This is a delightfully original game which uses nature as the setting for a highly compelling and challenging game. Guide the Bird Mother as she builds her nest and raises her young, finally protecting them from a predator hawk.*
*Fast loading cassette.*
*The stunning graphics and music in Bird Mother are not to be missed.*




**WING COMMANDER**

*This is a highly sophisticated flight combat simulator which puts you in the pilots seat. Highly advanced machine code programming has ensured you feel every stomach lurching dive and roll.*
*With 17 separate controls to be monitored and several ground targets to be defended from the attacking enemy bombers. This game will stretch your skills to their limits.*
*Fast loading cassette.*




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# THE BIGGES
# COMPUTER GAME IN THE V

**AS THEY prepared for the 25th Cadcam International Show, it became obvious that the boys from Enviro UK would really have to move.**

*They had booked most of the first floor as space only — and that's just the way it looked with just 24 hours before the doors opened. There was no sign of hi-tech stands, demo equipment or contractors while all around the air was filled with the clamour of build-up day.*

*Only four miles away in the Victoria Court clean air complex the calm atmosphere of Research HQ-Enviro UK heaved and shattered as Bob Marsh hit the roof. None of the ultra cool wafers had arrived, the holograph interpreter wouldn't gel and now MAD-2 (micro assembly droid) was just plain missing!*

*Bob is project leader for the total environment wrap-around program. All(!) he has to achieve is the translation of living requirements into structures. The breakthrough came two years ago when the imaging lasers were successfully integrated with a threadsheet spinner. The principle has been developed so that now the designers schematic — displayed by imaging lasers — can be directly translated into a solid structure.*

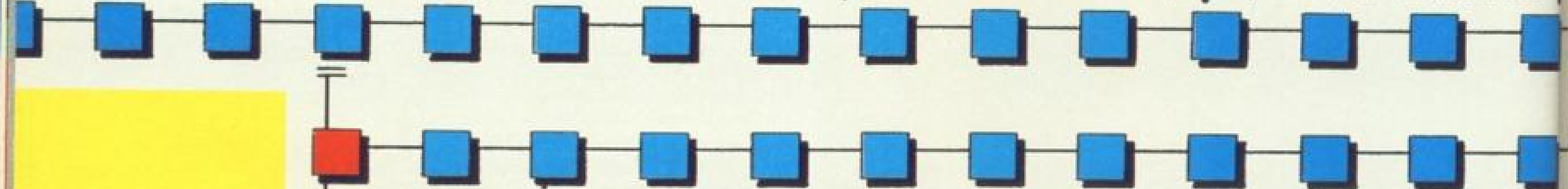
*This production facility is linked to a modified AI-12B from GDC (the artificial intelligence people) so that the program can comprehend what is meant by 'A cleaner concept for living' — then design and build 'the better living environment'.*

*The major modification to the control hardware was the use of background wafers to provide the huge active database of living standards — everything from building regulations to the dreams of humble dwellings. The idea of booking space only at the show was brilliant. In the center will sit the Enviro demonstration unit — the surrounding area will hold all those structures created by it. The (selected) show visitor simply states his requirements then has his mind blown as the suggested structure is constructed there and then! How can we fail — we're going to be RICH!*

*Bob Marsh wasn't feeling rich — he was feeling sick. There was no time to wallow — he had to make the decision to go. Go for it — pack the gear, ship it down to Olympia 3, send a runner for the wafers (they're preloaded) and we'll fit them on site, grab some fixers and tweak the hi-interps on the way down.*

*You should have seen their faces — acres of low-start flooring to fill and we turned up with two small trucks and the E frame. There was no point in keeping anything under wraps — none of the incredulous contractors would guess the nature of the breakthrough, and anyway we still had work to do.*

*Set-up only took three hours and the laser alignment was going well. We still lacked the wafers but they were on their way. . .*



The screen chart on this page is just a small part of *Cad-Cam Warrior's* overall map scenario. Each colour code designates a new screen 'system'. Short cuts (at junctions) CAN be taken . . . provided you've done well (and quickly) enough when you reach the option point. Otherwise it's the long haul . . .

***It's called CAD-CAM WARRIOR, by Task Set, and it boasts eight thousand different screens. Yes, you heard right—eight thousand. Is this the standard of the New Epic?***

THE SCENE is set for the biggest arcade adventure in micro history. It's called *Cadcam Warrior* and it's from one of the leading games houses in the UK, Taskset.

**TONY TAKOUSHI reports . . .**

**A BIG K EXCLUSIVE**

## ST

## WORLD?

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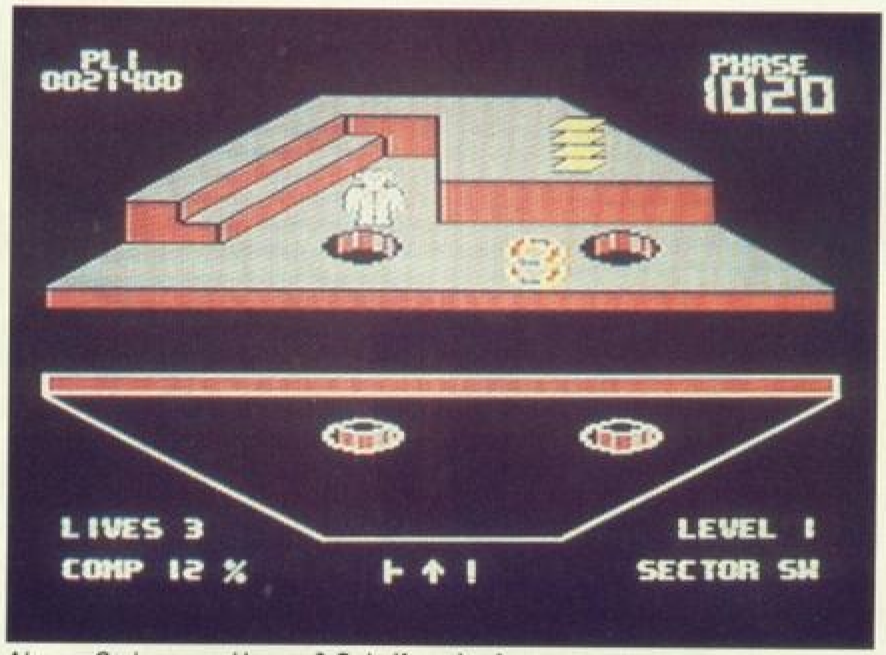
As the final scenario line implies the wafers are the key objective in the game and the runner is the character you control. The computer has malfunctioned and it has swallowed the runner and the wafers into its processing system. The runner has to work its way through the computers locations (8192 in all) to its very heart where the wafers lie. There are 200 alien types (some being rehashed in different layouts) Info Tokens, Phase Counters, Vifa Branches, Online Tokens and Exultation Junctions to destroy and collect on your travels. But I won't define all the above items as it would greatly detract from that joy of discovery in playing.

There are eight square-shaped floors with each floor holding 1024 rooms. These rooms are split into four sectors on each floor (4*256) with a stairway to the floor above in each corner of the floor.

### PRESENTED

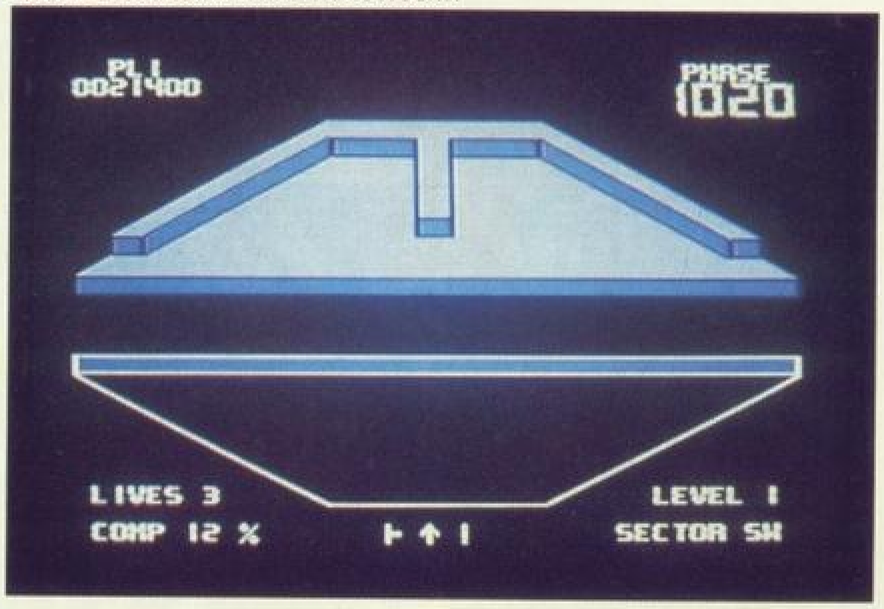
As you play you will be presented with a room which has two mirrored plates (see pics) and the colour of the edge plates will be an indication of the attack pattern for that room. Skillful play is necessary as the faster you complete a room you are awarded with Phase Counters and Online Tokens. These two items allow you to jump ahead and bypass other rooms directly in your path (as laid out in a short-range map at the end of an attack wave) and recieve information about branches further ahead respectively.

The key to playing this game well is be rather familiar with the numbers in base eight (play it and find out!). The small section




Above: Stairway to Heaven? Only if you're fast enough.

Below: 3D soft-solid and 8192 locations.




Below: The Taskset CadCam Warrior team: justifiably proud of their epic.




CONTINUED ON P.27




**Skooldaze** –
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**Wheeli**
in February the CRASH magazine reviewe thought this was one of the most addicti games ever. At a rough guess I'd say they we addicted to this gam

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# THE BIGGEST COMPUTER GAME IN THE WORLD?

CONTINUED FROM 25

of map (see above) shows a tiny portion of the first floor. You enter top left and would have to hold info tokens to see the branch down from the blue sector to the Orange sector, or you would travel all the way up and down the blue passage to reach the Orange junction.

## FURIOUS

The action in the game is fast and furious and the aliens do not simply have to be zapped. You can collect them, lay mines, lead them into trouble and collect them while they are young, to name but a few. The real challenge in this game is simply its sheer size and the necessity to watch out for (and wisely choose) the right branches to get via Exultation Junction to the floor above you.

As you can see from the map section (the number 8 and multiples thereof are relevant when it comes to finding junctions to the next sector on each floor. although there are a few surprises in store if all junctions encountered are taken.

The graphics and sound are up to the usual Taskset excellence and a great deal of thought has gone into the planning and design of this game. It all shows in the quality of the final product. *Cadcam Warrior* is not a game to be cracked in a week. In fact, I defy anyone to crack this baby inside a month. Maybe two. So there.

## HISTORY

**ALL TASKSET games, and** *Cadcam Warrior* especially, are the result of solid teamwork. At all stages from design concepts through to mastering for duplication the designers have been working together, originating and solving problems.

Consider some of the stages which became the subject of discussion by some or all the Taskset team during the development of *Cadcam Warrior:*

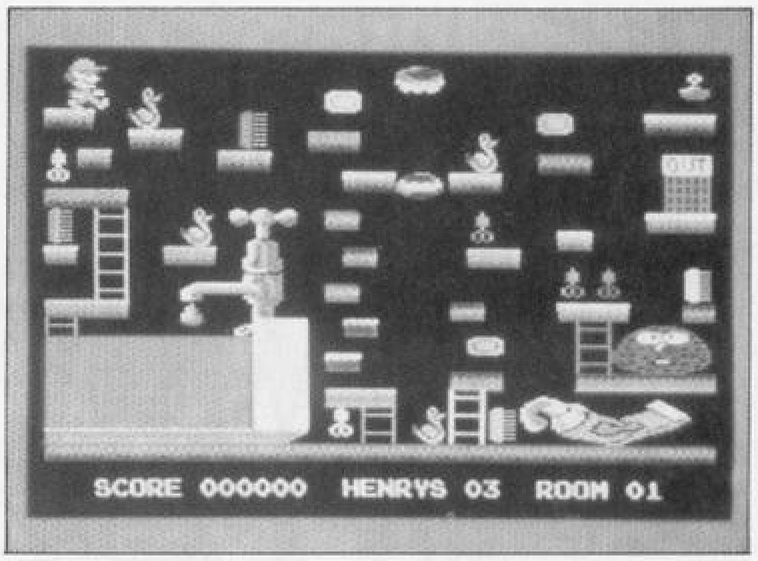
1. The design concept — this grew from ideas about displaying two alternative game play areas on the same screen. They were originally linked by holes through which the player could conduct two battles simultaneously. This idea fused with the concept of a machine created labyrinth and the basis for *Cadcam Warrior.*

2. Detail Definition — to establish the shape of characters and the environment. This is heavily linked to graphic design but must take account of the capabilities of the 64's screen and the requirement that the major characters be highlighted and have special definition to save them from merging with a many-coloured background.

3. Storyboards — these are produced to establish the main objectives of the game and to show the view of important scenes on the way to the goal.

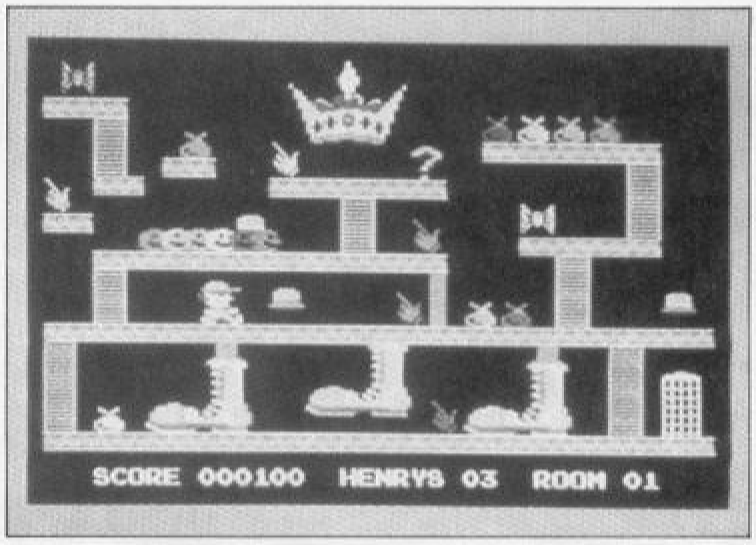
4. Sound — including sound effects and music, the allocation of channels and the mood which the music should induce. The composition and arrangement of an original score was a major consideration.

5. Game Facilities — includes joysticks, keyboard, player options, number of players, security, loading screens and memory management. Add to these game requirements the commercial requirements of scheduling, production, packaging, promotion and funding the need for a team is clear.










## HENRY'S HOUSE

THIS IS a new game from English Software (of Atari fame) that sets a new standard in graphics and cute characters on the 64.

Before I go any further I need to make clear that this game to all purposes is based on a certain princeling who was born not too long ago.

It has eight different screens and little Henry has to make his way from room to room picking up all the objects and reaching the exit safely. The rooms to be covered include The Bathroom, The Nursery, The Clothes Cupboard, The Kitchen and The Playroom. Little Henry looks incredibly cute and endearing and the way he leaps around platforms and ladders gives the game a strong arcade element.

This is another platform game BUT it offers a totally new perspective on the graphic capabilities for the 64 and is tough enough to ensure many a night's play before it is mastered.

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# KONGRATULATIONS
## *HERE COME DE WINNERS OF DE*
# BIG KOMPETITIONS

### *BIG K CGL M5 competition*

*July issue.* Entrants were asked to place eight features of the CBL M5 computer plus 'Basic-G' cartridge in the order they would most appeal to a novice computer user. The best set of answers, in the judges' opinion, was supplied by *Colin Meeks of London*. He put:
1–C, 2–B, 3–E, 4–L, 5–K, 6–D, 7–J, 8–A.

Colin kops the M5, Starter Pack, Basic-G cartridge and everything he needs to start a full and happy hacker's life!

Game & Watch Multi-Screen Pocket Pinball games go to 17 runners-up. All should by now have been notified of their winnings.

### *BIG K Wico Joysticks competition*

*October issue.* Eight advantages of joysticks over keyboard use in arcade-style games were listed and entrants asked to place them in the order of importance to a home computer games player. The judges checked out the coupons and decided the best order came from *Nicky Tiernan of Chester*, who put:
1–K, 2–C, 3–E, 4–A, 5–J, 6–L, 7–B, 8–D.

Nicky wins a Wico Track Ball and a 3-Way Joystick, as do *C. Giles of London, Michael Lewis of Buckingham, Mark Metcalfe of Auckland and P. Milner of Tollandine,* all of whom submitted next best entries.

Second Prizes of a Red Ball Joystick went to *M. Aspinall of St. Leonards on Sea, Paul Brake of Edinburgh, C. Craddock of Horndean, P. Lambshead of Rainham and Kristina Smith of Warminster.*

Third Prizes of Boss Joysticks go to *Kenneth Gordon of Edinburgh, Stuart Giles of Marston, Robert Kerr of Glasgow, B. Morris of Rochdale and Paul Quinn of Newcastle Upon Tyne.* Everyone should have been notified of their winnings.

**Big Kongratulations to one and all.**
*Stay tuned for more competition results coming real soon.*

## TUBE WAY ARMY Dragon

KK

# NO NUMAN, THOUGH

Think you can stand the excitement of YET ANOTHER *Scramble* clone? If so then take a look at this undeniably competent adaptation for the down-but-not-out Dragon. 'Tis guaranteed to take you to the edge of your seat without firing your imagination. All the usual scenery is on show, from the opening acne terrain to the architecturally improbable wall, although none appear as tough as they ought. My initial wanderings through the alien tube system were an intergalactic doddle thanks to a friendly missile system! I guess some amorphous dude somewhere slipped up. Visually, though, it's neat enough and there's an effective synthi vox on board which'll count you down to launch. Of course *Scramble* sets are old hat nowdays and the Dragon is already served by Microdeal's own swipe, which while somewhat ragged is definitely more difficult. I guess it's best to just fly what fits, eh? — **S.K.**

**From:** CRYSTAL COMPUTING/ DESIGN DESIGN
**Other version:** TRS 80
**Format:** cassette
**Price:** £5.95
**Graphics:** KK
**Playability:** K
**Addictiveness:** K




## AD INFINITUM CBM 64

KK

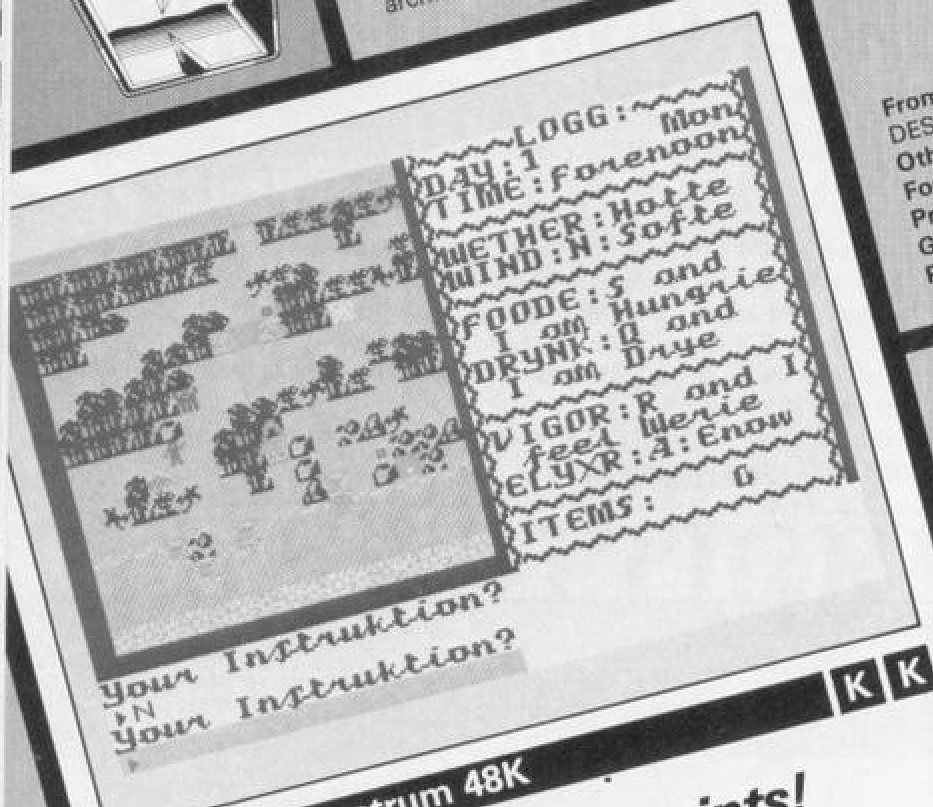
# A – SPRITES

Hey, you like-a-da sprites? We gotta-da sprites! You don'a like-a dat one? We take it out-a sure. Try-a dissa one. Is good eh? We gotta da sprites for everybody!

*Ad Infinitum* tries hard to live up to its name. It's a Galaxian variant with a very slow build up. The first ten frames are a total push-over, but the difficulty does start to mount up, ever so slowly. Every frame has a different sort of attacker, and I made frame forty without them repeating themselves. To add interest, there are occasional meteor storms to contend with, and sometimes the attackers come in diagonally. Some are quite zany, in the *Manic Miner* mould. See how you can cope with a flight of homicidal light-bulbs!

Very much a traditional shoot-em-up, move left/right, blast away. But its charm lies in its variety, and I can't fault it for that. Only thing that puzzles me is why is the frame number shown in hex? — **F.F.**

**From:** MR. CHIP
**Format:** cassette
**Price:** £7.95
**Graphics:** KK
**Playability:** KK
**Addictiveness:** KK




## CRUSOE Spectrum 48K

KK

# Good Grief — Footprints!

Normally, my loudly voiced opinions are an unwavering edifice to the obstinate. I'm not one to hedge my bets. *Crusoe* however has caused much rewriting in the Keaton notepad. Initially I thought it an overly ambitious and largely inaccessible graphic adventure, noteworthy only for its ornate presentation. Then, while dispensing the usual barrage of expletives (a.k.a. the final option) I stumbled across MOST unexpected retorts. As you might imagine I warmed to the adventure immediately. In fact, this interchange became something of a game within the game. The prog's foul file is surprisingly large and a quite inordinate amount of time was spent plumbing its depths. Modesty forbids me from revealing more.

Interest duly rekindled, I went on to further explore the island, and was eventually won over. The presentation is superb. The display is split between a representation of the island and a status log, which reveals, in archaic script, your current physical condition, the time and day and even the prevailing weather!

As Crusoe, your objective is to escape from your sandy atoll and return to Blighty. On hand is much useful junk (violins, dead birds and doorknobs) and naturally enough Man Friday also lurks nearby. The action itself is played out in real-time via the map display. Standard Save Game facilities are available although I was rather miffed to discover that Quit only re-energises your supplies and doesn't return you to a start position. Get yourself in a pickle and you've no choice but to kill the power! An overly dramatic option I'm sure you'll agree. Still, who ever said life on a desert island was a bunch of beefjerky? Not I. — **S.K.**

**From:** AUTOMATA UK
**Format:** cassette
**Price:** £6.00

**Graphics:** KK
**Playability:** KK
**Addictiveness:** KK

## WAXWORKS CBM 64

K

# TUSSAUDS

Mixed graphics/text adventure from Channel 8's extended range. I had high hopes for this one, being a devotee of V. Price, and *Waxworks* being another of those 'obvious-theme-that-no-one's-done-yet' ideas. In the event, I really couldn't work up the energy to bulldozer through it.

Channel 8's graphics are at least an integral part of the game, unlike many another adventures where they're simply a frill. So much so that there's very little text, and you have to rely on your interpretation of the rather shakey line drawings to decide what action to take. This is really adding too much of an extra burden to the old 'guess the verb' format.

The game doesn't automatically tell you what portable objects are lying around, it doesn't even show them on the graphic display. No, you have to try and pick them up just to find out if they exist. The result may appeal to people who really enjoy Herculean tasks like filling in income tax forms, but it didn't exactly speak to the depths of my soul. A long hard slog and not cheap at that. — **F.F.**

**From:** CHANNEL 8 SOFTWARE
**Format:** cassette
**Price:** £9.95
**Graphics:** K
**Playability:** K
**Addictiveness:** K

# The Activision Eight.



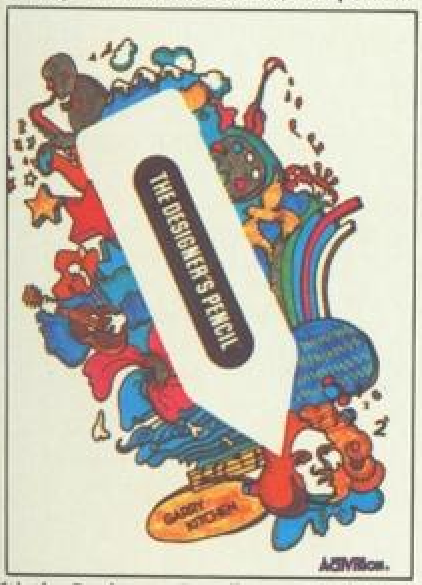

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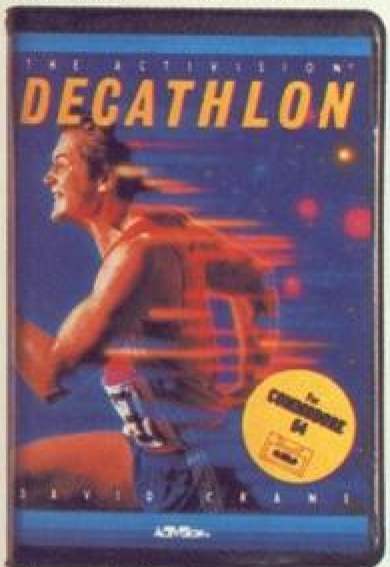

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**Running on Commodore 64. Soon on Spectrum**

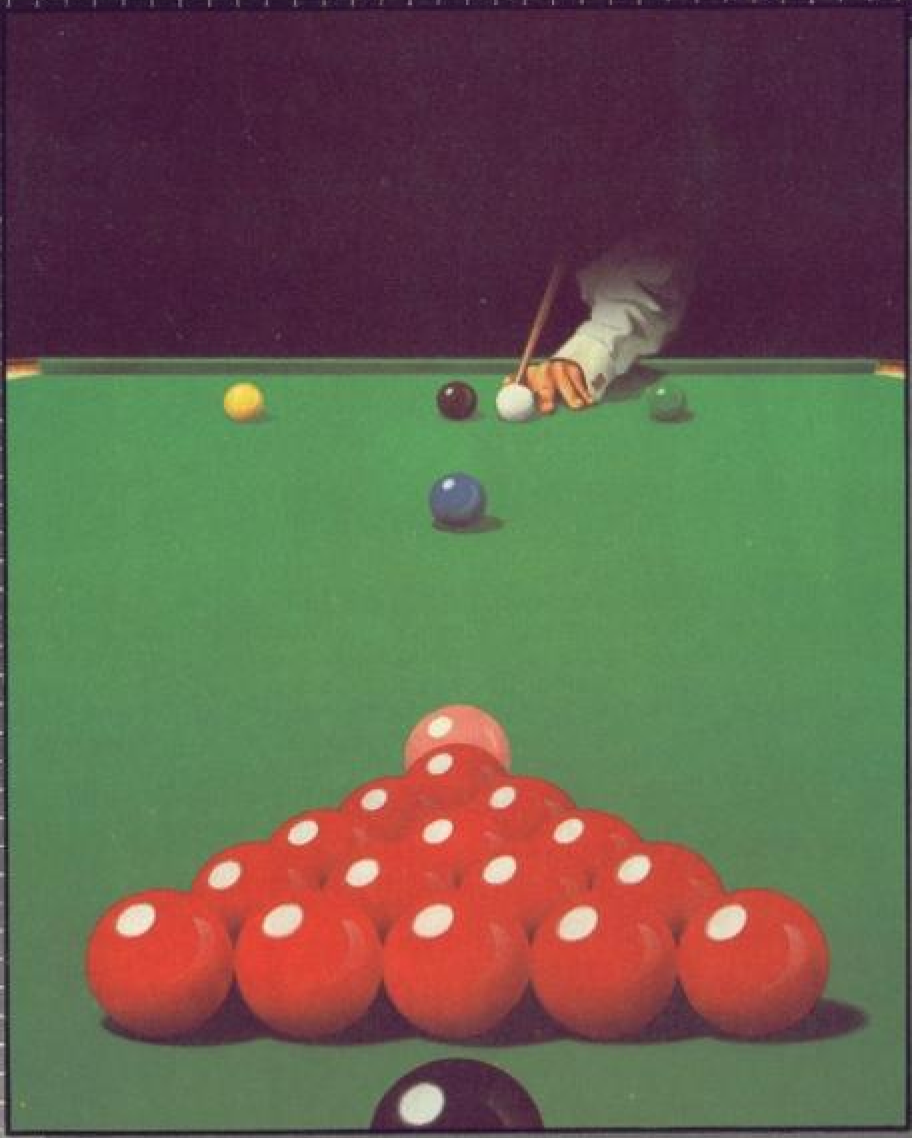
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# Visions



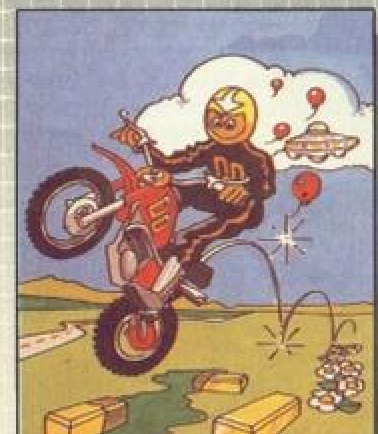
**SNOOKER** – £8.95
SPECTRUM BBC VIC 20 ELECTRON C64

Written by Tim Bell. A brilliant simulation of the popular table game. Can be played on one's own or against an opponent. An extremely enjoyable game for all the family.



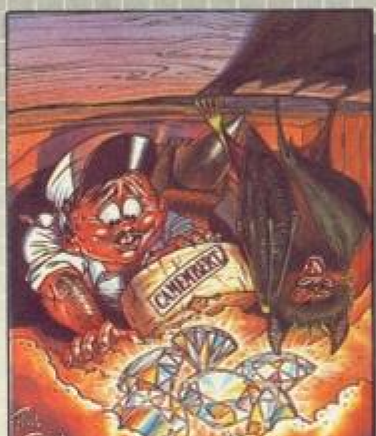
**GALAXY RAIDERS** – £6.95
BBC

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**DARE DEVIL DENIS** – £7.95
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**HENRI** – £9.95
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Written by Adam Billyard. Henri is tunnelling for diamonds, but in his quest for wealth he must fend off killer bats and falling anvils by throwing his deadly camembert cheese.

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# Visions

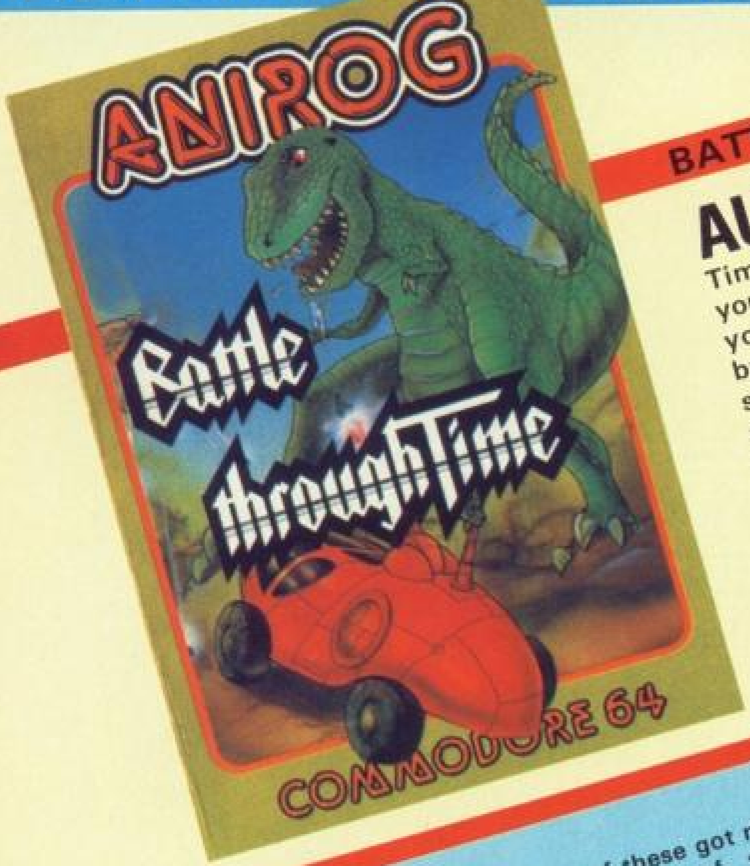
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KK

BATTLE THROUGH TIME CBM 64

# AUTO vs. DEATH LIZARD




Time travel perfected, you've been sent off in your all-terrain plasma buggy to take part in seven battles in different time zones, WWI, WWII, Korea, Vietnam, WWIII, War Mutants and In the Beginning (where T. Rex is the baddie).

You can shoot upwards at the biplanes, bombers, jet fighters, choppers, satellites, mutant boxes and hands, and pterodactyls that are busy strafing you, and ahead at the boulders, debris and ground forces in your path. And that's the trick — you have to look in two directions at once, up and forward, and as the action gets more frantic, your chances of avoiding everything depend on rapid eye movement and decisive action. In each zone you have to travel ten miles to get to the teleportation point and do it in a limited time to avoid being catapulted into the void.

Great graphics, smooth action, speed functions and a continuous play feature make this much better than comparable games such as *Moon Buggy*, and it has that indefinable quality that makes one respond to a game. —J.C.



**From:** Anirog
**Format:** cassette/disc
**Price:** £7.95/£9.95
**Graphics:** KK
**Playability:** KKK
**Addictiveness:** KKK

K

CAVERNS OF KHAFKA
CBM 64

## Sinister Pothole




Sadly, the owner of the caverns is not the great Franz K., although as author of such masterpieces as *The Castle*, he might have smiled on these caves. It's just about as easy to get through them as it is to get through one of his mad bureaucracies.

In fact this one owes more to Spielberg than the mighty Czech. You have to manoeuvre a little Indy Jones figure through the very dangerous caves in search of the seals to the tomb of Pharaoh Khafka. If you have all five fixed to the door of the Pharaoh's tomb, it opens and you get to play the next bit of the game.

Don't ask me what that's like. Man, these caves are like, heavy. Roving vampire bats, rock falls, magma pits, one or other of these got me in the end. One of the problems is that the joystick controls no less than 15 different functions, crawling, running, jumping, throwing a rope and climbing it, and so on. This means using all the eight perpendicular and diagonal covements doubling up according to whether or not the fire button is held down. Frankly my joystick — a standard Atari, just wasn't up to it.

This game is very hard work, but I think it might just pay off. Like all the other Cosmi games I've seen, the music is great. —F.F.

**From:** U.S. GOLD/COSMI SOFTWARE
**Format:** cassette
**Price:** £8.95
**Graphics:** KK
**Playability:** KK
**Addictiveness:** KK

K

THE PRINCE, PRINCESS AND THE WICKED WITCH Spectrum 48K

## MATHSLAYER!

Alarmingly educational adventure in which you help poor dense prince Roland thwart the wicked witch in a vest and rescue beloved Princess Daisy. After the obligatory 'Have you done times sums at school yet?' intro, it's heavy duty sword and sorcery action all the way. Slay the dragon with a dazzling display of multiplication and behead ogres with flashy subtraction! Neato, Joe. I think I'll send a copy down to the Accounts Department ... —S.K.

**From:** FINSBURY
**Format:** Cassette
**Price:** £5.95
**Graphics:** Zip
**Playability:** K
**Addictiveness:** Beats school!

K

GILLIGAN'S GOLD CBM 64

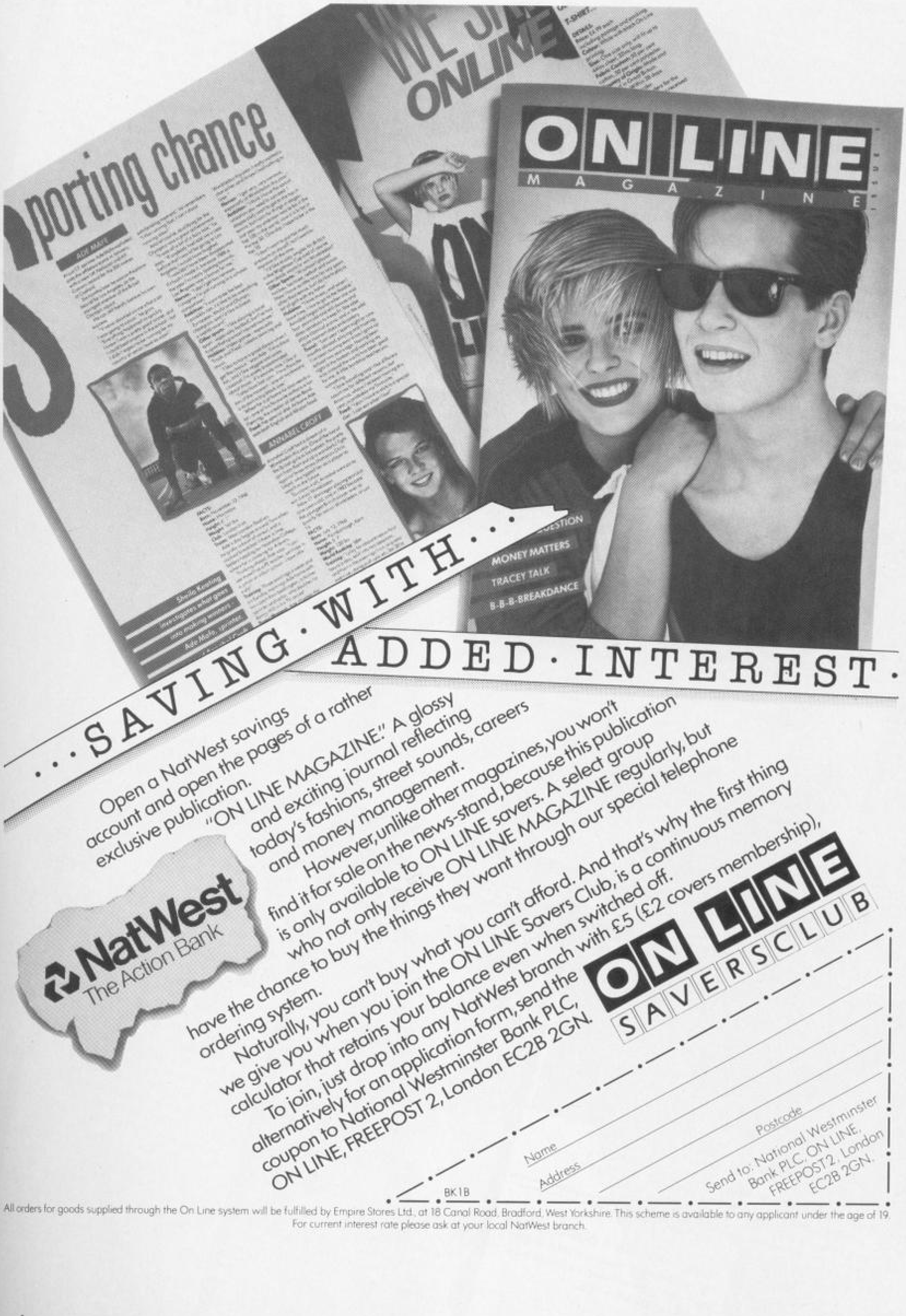
## Claim Jumper

*Gilligan's Gold* is about a miner who is trying to collect all the gold bags in the mine shafts and put them in his wheelbarrow at the top of the screen (sounds familiar). Well, Gilligan is a very close copy of the arcade game *Bag-Man* where you are under constant chase by two outlaws who you can stun by either dropping bags of gold on them or hitting them over the head with a pick axe (ouch!) but in the end it's usually you who ends up dead.

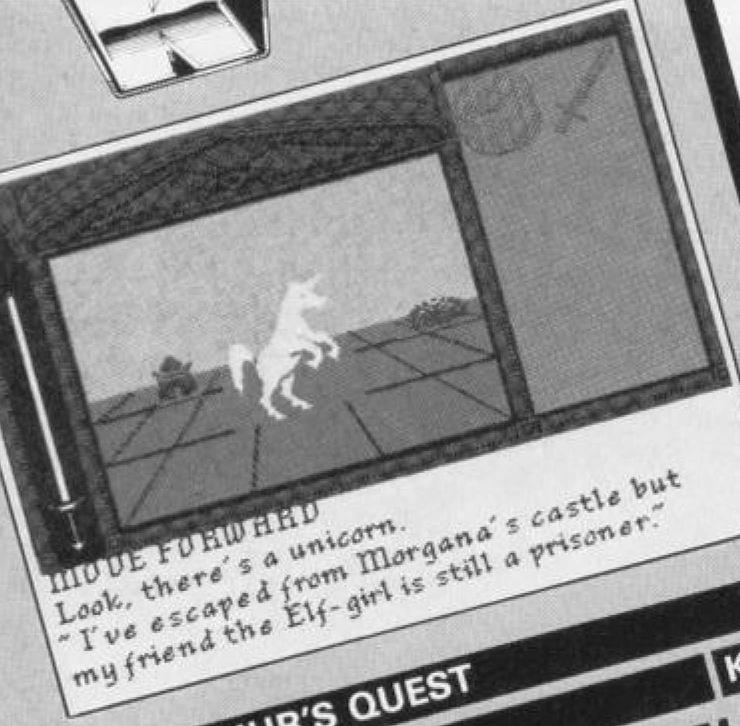
At first glance the screen looks very plain but as you move further along the screen you eventually see trucks and lifts which you try to get on if the outlaws aren't having fun riding up and down in them. One of the most annoying things about the game is you are under a time limit which you can reset by putting the gold bags in the wheelbarrow — but that's not easy if one outlaw won't get off the lift and the other one is in hot pursuit of you. So in the end you usually end up running out of time and having to start all over again.

Overall the graphics and music make it an addictive game to play. —S.C.

**From:** OCEAN
**Format:** cassette
**Price:** £6.90
**Graphics:** K
**Playability:** K
**Addictiveness:** KK



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All orders for goods supplied through the On Line system will be fulfilled by Empire Stores Ltd., at 18 Canal Road, Bradford, West Yorkshire. This scheme is available to any applicant under the age of 19.
For current interest rate please ask at your local NatWest branch.




## KING ARTHUR'S QUEST Spectrum 48K K K

# CAMELOT COUNTDOWN

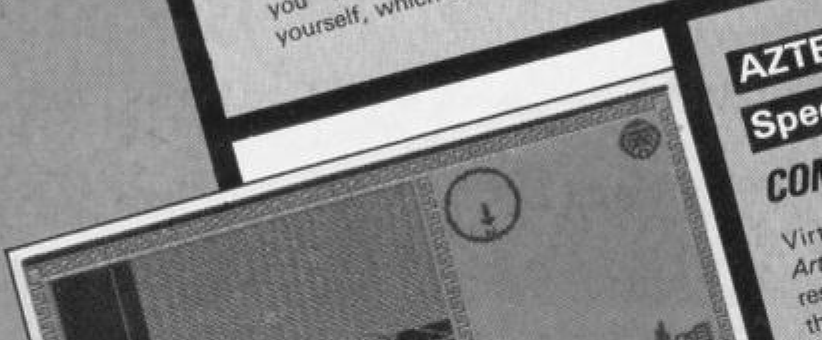
A FULL graphic 3D journey through the land of Camelot in the shoes of King A, trying to undo a spell cast by Morgana la Fey that's freezing the joint. Not only do you have to work out all the usual adventure game problems, vocabularty, movement, uses of objects, spatial relationships and tricky little puzzles, but you also have to solve a riddle and do all this before you start imitating a metallic anthropoid.

Hill MacGibbon don't give you much help either. Apart from a spell-breaker code and a very general blurb, all you get is an overlay for the top row of the Spectrum keyboard, which gives you eight effective commands — left, right, forward, drop, get, use and spell. The mechanics you have to work out for yourself, which takes a lot, and I mean a lot of trial and error. The get/use/drop actions are particularly baffling.

Compounding all these problems is the need to reload the game completely whenever you get wiped out, which isn't hard. The graphics are adequate, though the 3D field isn't very deep, giving you a rather limited visibility range, and the whole thing is laid out in chess board like squares, round which you shuffle feeling fairly pawn-like how to load and save, would have been in order, not to mention some pointers on the commands.*

**J.C.**

**From:** HILL MACGIBBON
**Format:** Cassette
**Price:** £7.95
**Graphics:** KK
**Playability:** KK
**Addictiveness:** KK




*KING ARTHUR'S QUEST. Since above review was written a full and comprehensive manual has been received. —Ed.

## HOVER BOVVER ATARI K

# CLOSE SHAVE, ROVER

Basically a souped-up version of *Pacman* where you are a little man appropriately named Gordon Bennett.

The object of this version is to mow all the grass on the lawn without going on the gardener's flowerbeds. This isn't so easy when your neighbour is chasing you for taking his Flymo in the first place.

The gardener is another problem — he doesn't take too kindly to Gordon going over his flowers so he also ends up chasing him to take your mower away.

Gordon has one thing in his favour. That's his faithful dog Rover (so the instructions say). You can use Rover to by-way the gardener or neighbour by pressing the trigger (this makes him bark scaring them off).

The little problem with Rover is, he can't stand the noise of the mower and when his tolerance eventually runs out he ends up attacking it.

*Hover Bovver* has over eight screens to choose from making it one of the better *Pacman-type* games around.

**S.C.**



## BATTLECARS Spectrum 48K K

### USED RUNNERS

Games Workshop have chosen to implement one of their board games for their move into software, but the original game, despite years of work, was less than satisfactory and the computer version can most kindly be described as over-ambitious.

Battlecars are armed and armoured cars in which you can either race or fight the computer of another player. There's a selection of differing off-the-shelf behemoths or you can use a Designer program to customise your own, with features like autosteer, powerbrakes, turbochargers or gunnery computers, while the weapons range from lasers and flamethrowers to mines and spikes. Three venues are provided, a duelling arena, the Autodrome, a circuit and a town.

Once started the screen displays three real-time windows, one for each car and an overall map of the area showing positions, plus vehicle displays, fuel, speed and damage or weapons. So far, so good sounding, but it's the controls that break the game. Each battlecar has six steering functions, four weapon controls, throttle and brakes and an amazingly uninformative overlay is provided for each end of the keyboard. That's right — in the two player version you each take one end of the same Spectrum keyboard! This hi-tech is too much! Playing solo against the computer you would, eventually, reprogram yourself well enough to have quite an enjoyable game, but I really can't see it as a two-hander.

**J.C.**

**From:** GAMES WORKSHOP
**Other Versions:** CBM 64 & AMSTRAD (announced)
**Format:** Cassette
**Price:** £7.95
**Graphics:** KK
**Playability:** K
**Addictiveness:** K



## AZTEC Spectrum 48K K K

### CONDOR MOMENT

Virtually identical to *King Arthur's Quest* in almost every respect, except, of course, for the scenario. This time you're an Aztec who finds that his fellow villagers have been hi-jacked by condors and the sun has failed to rise. Natch, it's up to you to sort all this out and again, time is against you as your strength ebbs in the cold. As with *Quest*, you get an overlay and very brief outline and have to work everything out for yourself. **J.C.**

**From:** HILL MACGIBBON
**Format:** Cassette
**Price:** £7.95
**Graphics:** KK
**Playability:** KK
**Addictiveness:** KK




From: LLAMASOFT
**Format:** Cassette
**Price:** £6.99
**Graphics:** K
**Playability:** KK
**Addictiveness:** K

K

P
64 &

## PACMANIA K
## CBM 64

### OLD CRUNCHER

The object of *Pacmania* is to eat all the dots in the maze while avoiding the ghost (ahh, not another one).

The only difference I could find in this version is the eight different screens and a thing called a hyper-maze port, which you go into when you're in trouble (which is basically every minute).

While you try to eat all the dots in the maze there seem to be one of the ghosts hot on your trail and the other three heading you off in every direction possible making it very hard for you to go anywhere. Great, huh?

Sound and graphics are very uninteresting and it lacks playability **S.C.**

**From:** MR. CHIP
**Format:** Cassette
**Price:** £5.50
**Graphics:** K
**Playability:** K
**Addictiveness:** K







## ANT ATTACK K K
## CBM 64

### PICNIC KILLERS

Who writes these blurbs? I can't wait for the arrival of a new Quicksilva progam these days, since each cassette sleeve features a masterpiece of crazed prose. Lovecraftian cliché tumbles after cliché, like Kim Aldis' cat in search of a new owner. Surely the mind that can produce writing like this cannot be fully human . . .?

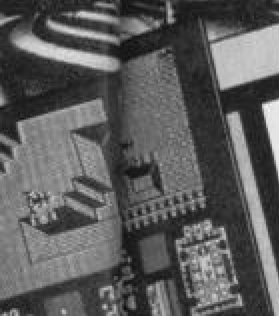
What? Oh yes, the software. Loved the graphics, folks. The design team of Sandy White and Angela are definitely a big Quicksilva asset, and their 'Softsolid' graphics are among the few convincing attempts at three-dimensionality I've seen. So far, both in this game and *Zombie Zombie* (for the Spectrum), they depict a ruined city. In *Ant Attack* it's inhabited by giant ants of aggressive temperament. Sensibly enough the point is to escape from the ruins.

You have a choice between being a hero or heroine, a good touch this, since the first thing you have to do is to rescue your companion of the opposite sex. Once you've met up with them, easy enough since they're to be found lazing indolently on a wall somewhere, then the important thing to do is run like blazes. You do have a gun and twenty rounds for self-defence, but there are a lot of ants. I didn't get out alive, not once.

The choice of four viewing angles adds a convincing depth to the scene, but I found that, graphics or no graphics, the game didn't quite work. I lost interest in playing very fast, and ended up just admiring the view. When Quicksilva find some other way of using Softsolid, then we're in for a great game. But not just yet — **F.F.**

**From:** QUICKSILVA
**Format:** cassette
**Other Versions:** Spectrum 48K
**Price:** £8.95
**Graphics:** KKK
**Playability:** K
**Addictiveness:** KK



## ROOMLORD CBM 64 K K

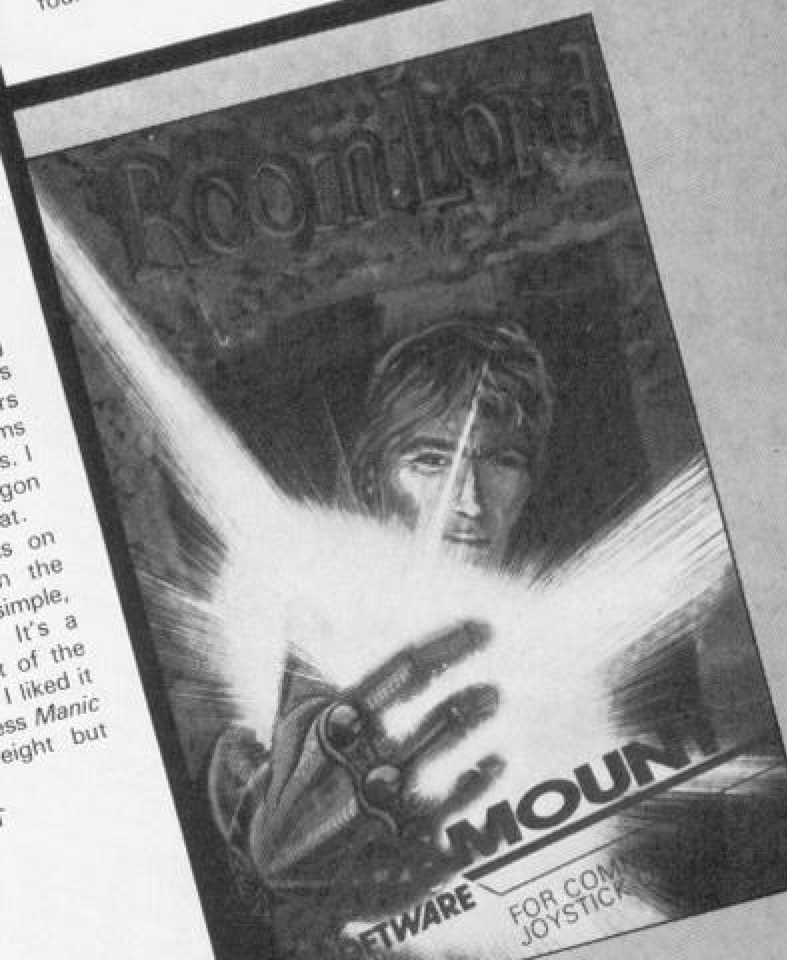
### GORMLORD

The multi-frame graphic adventure rolls ever on. To the endless army of gormless heroes, usually called Wally, Willy or Woolly, is added *Roomlord*. The non-W name notwithstanding, he still looks like a Wally to me.

*Roomlord* has you braving the perils of you haunted family mansion, *a la Jet Set Willy*. This is a shooting game, though, not a jumping one — the object being to clear out all the bizarre meanies in order to repossess your family heirlooms. Unlike other such games, which look like descendants of Kong with their girders and ledges, this one is laid out in plan form. Anything for a change, say I. The villains include Cyclopses, gangsters and giant eyes, and all the rooms are full of little tricks and traps. I particularly liked the Dragon room. Mean trick to pull, that.

There are sixteen rooms on four levels, and although the ground floor is relatively simple, the pace hots up fast. It's a simpler game than most of the others of this type, but I liked it for that, being a hopeless *Manic Miner* player. Lightweight but fun. — **F.F.**

**From:** PARAMOUNT SOFTWARE
**Format:** cassette
**Price:** £6.95
**Graphics:** KK
**Playability:** KK
**Addictiveness:** KKK



## FALCON PATROL II CBM 64 K K



# FALCON CREST

Question...What would be an original name for a follow up to *Falcon Patrol*? You got it, *Falcon Patrol II!* Here was a chance to try out my brand new, shiny joystick with auto fire, the sole purpose of which is to kill a lot and impress the blonde next door. Rats, out of ammo in thirty seconds, try to land for more and get creamed. Brand new shiny joystick winds up in a mangled pile by the door and the blonde passes forever from my clutches. There are times when auto-fire has serious disadvantages.

Although I'd never played the first *Falcon Patrol*, I'd heard good things about it, so I was quite looking forward to this one. I wasn't disappointed either, it's surprisingly addictive for such a simple game. In the words of the makers, 'the enemy is about to launch its final offensive'. The object of this attack is you and the means seems to consist largely of helicopters. If you want to get out there and draw a bit ~~of~~ blood then you've got to get the hang of the Falcon Fighter, a VTOL craft, that comes as part of the package. This isn't as easy as it sounds; it doesn't have the same lightning responses usually expected from a pack of pixels on the end of a joystick.

Instead it responds more in the way a real VTOL would, rather slow on the turn, so in practice, if you spot an enemy chopper and decide that the other direction is a sensible place to be, before you're halfway into the turn you find yourself on a one way trip in a downward direction picking bits of chopper blade out of your teeth.

Nice graphics too, not really true 3D as stated on the pack, more a sort of side-scrolling semi-3D, but very effective nonetheless. As the game progresses the enemy start to drop ack-ack guns and radar jammers and the going gets generally more hectic until you think you've accidently stumbled on a fire in an ammo factory.

And now, if you'll excuse me, I've got some killing to do. —**F.F.**

**From:** VIRGIN GAMES
**Format:** cassette
**Price:** £7.95
**Graphics:** KKK
**Playability:** KK
**Addictiveness:** KKK

## FORBIDDEN FOREST CBM 64 K

# TWANG! GODDIM!

From the first batch of new American products to hit our shores, *Forbidden Forest* shows that the US is making some brave attempts to escape from the arcade game strait-jacket.

You control a little archer beset by monsters in an enchanted wood. The archer's bow is loaded and fired by alternate presses of the joystick fire button. The stick is used to aim the bow, which is no easy matter. The game has a sense of depth, so you can fire back 'into the screen'. Getting the right angle left/right and up/down takes learning; however it is possible to run right and left by continuing to push the joystick when the bow are has reached either of its left/right limits. I did a lot of running.

It's a very clumsy game control system but the lack of playability is compensated for by some fine graphics and music. The background is in the best Disney tradition and consists of separate landscape planes which move past very convincingly as you do. The moon rises and sets, the stars come out and twinkle away. All this is set to SID chip-stretching sounds, a separate theme tune for each enemy. The monsters come in eight levels — I got through spiders, a large bee, toads and a dragon. They don't look as good as the background but you don't get much chance to stop and examine them. When you've cleared a screen of monsters the archer does a cute little disco number.

For attention to detail, this is great, I just found actually playing it a bit of a chore. —**F.F.**



**From:** US GOLD/COSMI
**Format:** cassette
**Price:** £8.95
**Graphics:** KKK
**Playability;** K
**Addictiveness:** KK

## STAR TRADER CBM 64 K

These are the ongoing voyages of the Starship *Free Enterprise*. Its five year mission? To seek out new markets and new civilisations, to boldly sell where no man has sold before.

*Star Trader* attempts to interest us in more edifying pursuits than the mere zapping of extraterrestrials, namely the honest pursuit of profit on countless (that is if you can't count past seven) worlds.

Bug-Byte's galaxy doesn't seem such an interesting place to live. For a start every planet closely resembles Basingstoke, but even more boring, if that's possible. There's one pub, one hotel, one supermarket and a whole selection of small trader clones who clearly are not in business for the good of their health.

It's not too hard making a profit in theory though, you just ship tools, timber, exciting stuff like that, from a low-cost world to a high-cost one. The trouble is that you have to pay outrageous prices for sandwiches and flea-ridden beds, and if you don't eat and rest, then the spaceport authorities declare you unfit to fly. This incessant insistence on the minutiae of everyday life is charming at first, but becomes very tedious after about five minutes.

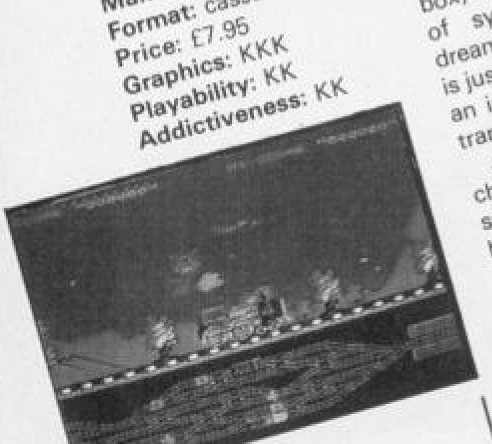
The only excitement in the game consists of fighting off the space pirates who plague y

**From:** BUG-BYTE
**Format:** cassette
**Other Versions:** Spectrum 48K
**Price:** £7.95
**Graphics:** KK
**Playability:** K
**Addictiveness:**

## LOCO CBM 64 K K

# CHOO-CHOO

**Maker:** ALLIGATA
**Format:** cassette
**Price:** £7.95
**Graphics:** KKK
**Playability:** KK
**Addictiveness:** KK



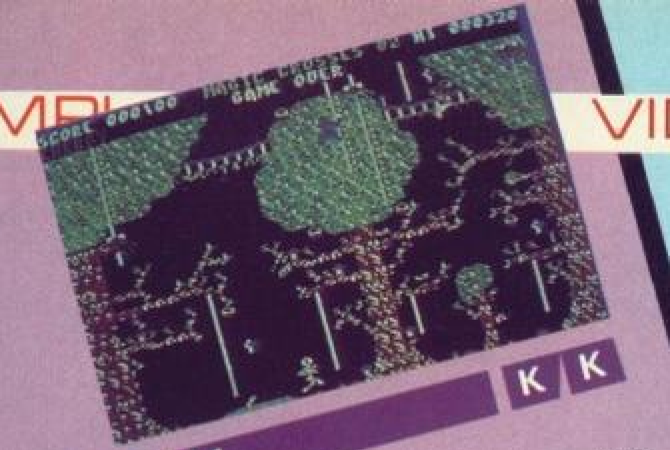
You're looking at somebody who's just returned from the kind of train journey that would make Jimmy Saville get out and walk. Hot, sweaty and packed — more like the age of the drain than the eternal bliss portrayed on the box, so I don't have a great deal of sympathy for the Saville dream. *Loco*, on the other hand is just the thing to restore faith in an intrinsically hideous mode of transport.

Alligata have given you the chance to play trains on a grand scale. not the bullet shaped beasts in common use today, but a classic Casey Jones type steam engine. along the bottom of the screen is a bird's-eye view of the tracks along which you are travelling and the rest of the screen is taken up by a side view of the train as it steams across the landscape.

Using the joysitck you guide the train, switching tracks to avoid or lay waste the various assailants which attempt to put you alongside the Dodo on the extinct list. These tend to come mainly from the air in the form of airships and planes, dropping bombs the size of buses. Occasionally a runaway handcart, packed with explosive comes belting towards you along the track which can also be disposed of by the method outlined below.

You have two methods of defense, firstly steam, which seems not to be the common or garden variety, but the extra special heavy duty type — more than capable of wiping out anything it touches. Besides this you have steam blasters for anything daft enough to find itself in front of you.

*Loco* is made by the graphics. The train is a good three inches long which makes a change from the two pixel horrors some programmers seem happy with, and the detail in the background is superb. At first I thought it was too easy until I noticed there was choice of levels. At level five it's impossible. —**K.A.**



K K

## CHILLER CBM 64

# A Biff In The Ghoulies

In which the very small, very musical and very rich person re-lives some of his nightmarish memoirs from the film of the record, which has already become a film of the film of the record and will probably end up as the book of the film of the film of the record. In case my train of thought is becoming obscure, we're talking Michael Jackson taking some time off from making mega-bucks and spending some of it avoiding spooks, collecting magic crosses and rescuing fair maidens.

Loosely based on Thriller, you guide El Jacko around various locations, avoiding spooks, ghouls and other wierdo types found in these places, before turning into a werewolf and ending up in Battersea dogs home howling at the moon and supping Kennomeat.

The first screen is a forest setting, a few trees and several ropes to climb up and down. Once all the magic crosses have been collected you progress to a cinema, then a ghetto, graveyard and haunted house, in that order. At this point you can rescue your girlfriend and cart her back through all the nasty places you've just visited.

This is where life gets complicated, in that you have to control bothe characters, switching between the two and keeping some distance between them and the spooks, again collecting magic crosses.

While all this is going on we're subjected to a rather dubious rendering of Thriller in the background, not exactly the kind of thing to make you want to jump around the dance floor like a madman but enough to give an impression. I wonder if the squeaky-voiced person is collecting his share of the royalties on this? **—K.A.**

**From:** MASTERTRONIC
**Format:** cassette
**Price:** £1.99
Graphics: KKK
**Playability:** KK
**Addictiveness:** KK

K

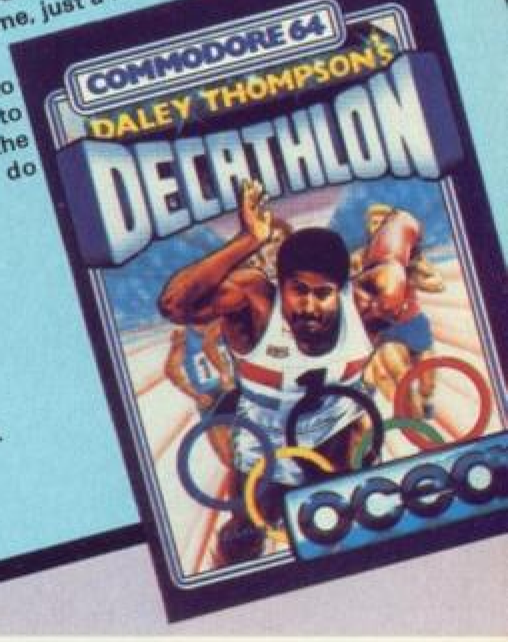
## DAILEY THOMPSON'S DECATHLON CBM 64

# But Where Is Princess Anne?

From the spate of computerised cash-ins on the Olympics, Ocean's game stands out. Its 10 different events are for once correctly described as 'gruelling' in the game's blurb — the four running competitions culminate in a 1500 metres so exhausting it might induce permanent muscular fatigue. As for the pole vault...well, visually this is pretty much a straight cop from the summer's arcade hit *Track & Field*. Your competitor is given speed by your ability to slam the stick to and fro at maximum velocity; officials trot out to measure the ling jump; and the crowd roars for success, remains stonily silent at failure. Four blunders and you're out. The graphics look comparable to the original on both CBM64 and Spectrum.

But this is really a game where you're fighting against hardware limitations. I wouldn't like to say how long the average stick will stand up to the pounding necessary to complete the 1500 metres (a touchpad model is probably the most suitable) and it really calls for no imagination or instinctive skill to score well at the game, just a kind of mininaturised brute force.

My scores also seemed to carry over from game to game. Good copy but the scaling down doesn't do much for a micro.
—R.C.




**From:** OCEAN
**Format:** cassette
**Price:** £7.95
**Graphics:** KK
**Playability:** K
**Addictiveness:** KK
**Overall:** K

K

## Spectrum 48K

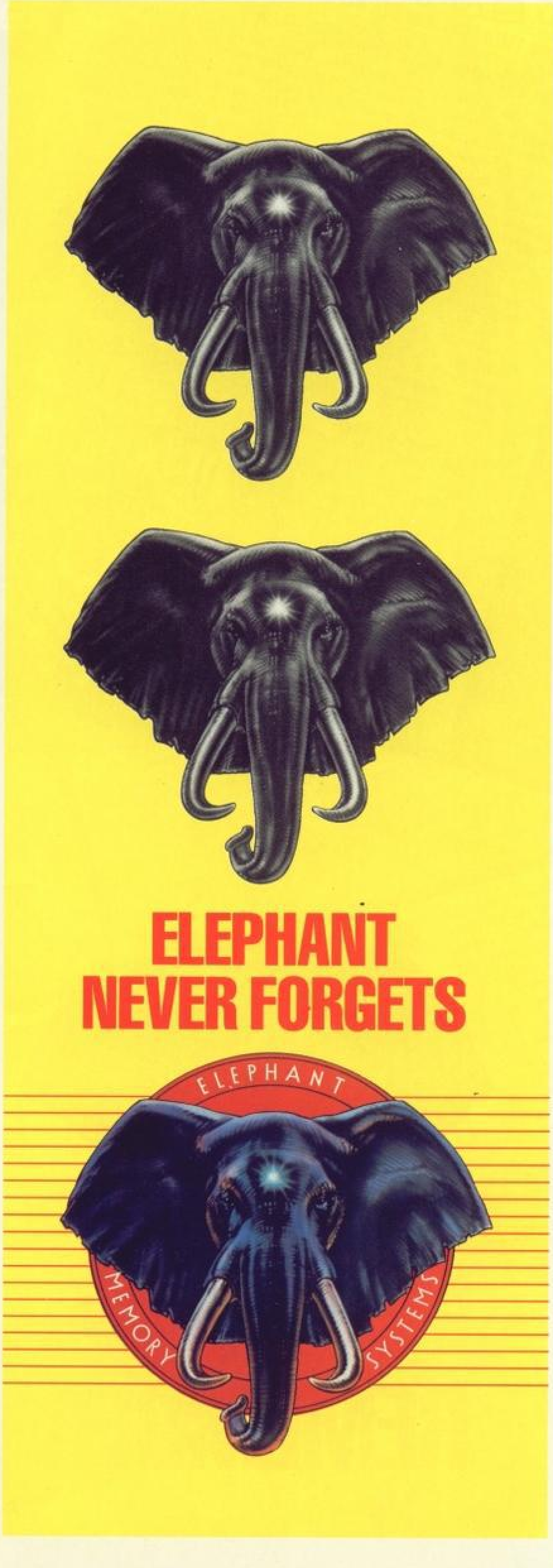
# Old Dog, Old Tricks

Hey, man! What's this! None other than my old pub pal, *Lunar Lander* long time no play, eh? Just when I'd thought all the old faithfuls had tottered off to that great arcade avenue in the sky, up crops this ol' dog decked out new technicolour threads. Never fear though, the game plan remains pretty much unchanged.

Those dang humanoids are STILL stranded on that alien moon and it's STILL your job — no promotion — to pilot a lander down through rolling clouds of monsters and meteors in order to pick 'em up. Unfortunately, not only is this rescue job STILL intrinsically boring but, in this guise, it's also hampered by poor design. The first screen is so difficult it promptly kills off whatever vague historical interst the game might still hold; we're talking archaeology here! Avoid.
—S.K.

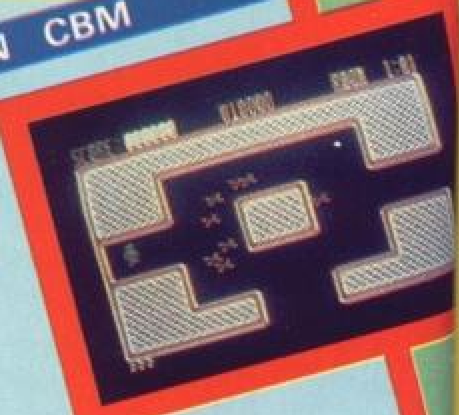
**From:** VISIONS
**Format:** cassette
**Price:** £5.95
**Graphics:** KK
**Playability:** Pass
**Addictiveness:** Pass








## CYBERTRON MISSION CBM



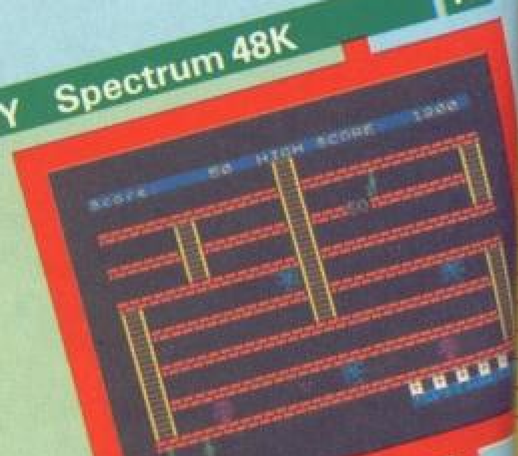
# A VITAL PART IS MYTHING

The explanations behind games seem to get loonier and loonier all the time. This one really does mix the *mythoi*. For starters, you've got a building full of killer robots, some of which shoot back and some of which don't. The walls are electrified and to be avoided. So far so good, and very cybernetic indeed. But what you're looking for is keys, magic rings, pots of gold and such adventure game paraphernalia. To add a dash of Gothic, if you hang around too long in a given room, this classic-type ghost comes through the wall and knocks you down. Looks like a person in a bedsheet, if you ask me.

Movement is under joystick control, and you can fire back in the direction of movement. The gun is unfortunately rather low-slung, so the little man you control seems to be doing something you wouldn't expect in polite company. The maze ois a fair size, some sixteen rooms on each level, but I really found it a bit too zap-or-you-get-zapped. Certainly a strain of engaging eccentricity here, though. —F.F.

**From:** MICROPOWER
**Format:** cassette
**Price:** £6.95
**Graphics:** K
**Playability:** KK
**Addictiveness:** K

## MUMMY MUMMY Spectrum 48K



# MAKING IT WITH BAND-AID

A trio of Egyptian Panic variants suitably swathed in rotting bandages and dunked in embalming fluid. The first is fairly pointless to be honest, and merely involves digging a couple of holes in Tutankhamun's tomb in the hope that a crusty Glob (animated and angry) can be tempted up from the lower levels and then brained. It's little more than a ritual really, prior to entering the second levels 'n' ladders screen, which is based on the standard Panic layout. here you must collect at least five of the randomly scattered cartouches (a kind of hieroglyphic note-pad) from beneath the noses of prowling Globs, thereby being allowed entry into the third screen which puts you within sniffin' distance of your beloved endgame sarcophagus.

Pharaoh enough you might think! Unfortunately despite the promising scenario, this variation on a theme has little to commend it. The graphics are functional (i.e. not quite naff) and the game just happens to be an expert on all things Egyptian and have stacks of interesting Egyptian holiday snaps to show. Y'know, Keaton at the Sphinx, Keaton impersonating a sphinx, that kind of thing. There's even some Super 8 film somewhere! Now where did I put it all... —S.K.

**Maker:** LOTHLORIEN
**Format:** Papyrus scroll
**Price:** £5.95
**Graphics:** K
**Playability:** K
**Addictiveness:** K

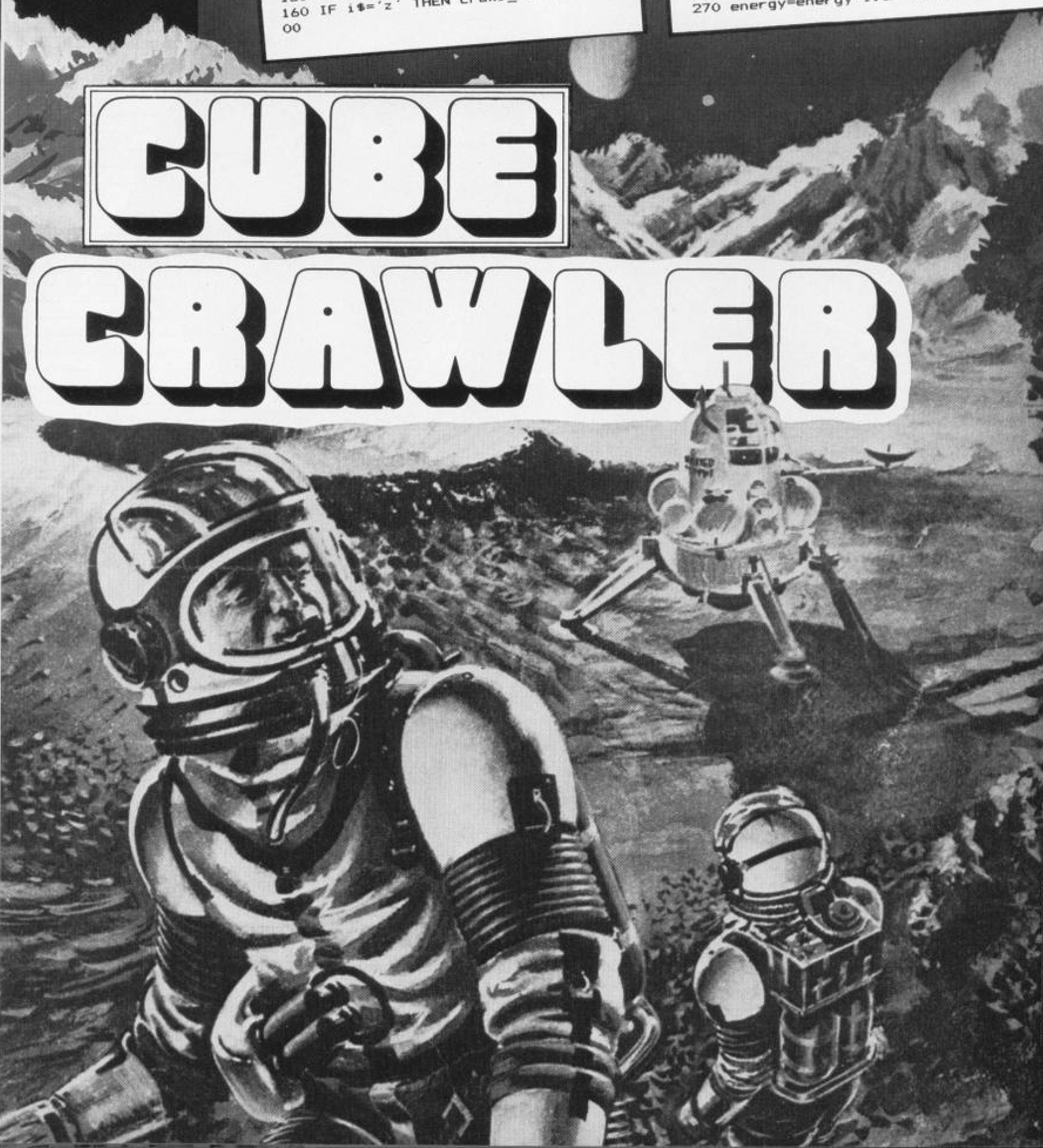
**By Anthony Trenker**

**Funny weather on Xarkos 4. Hail comes in huge cubical lumps weighing 8 tons apiece. Dodge them and live! Watch your energy level — big jumps use more.**

```
10 REMark Copyright 1984 OctOsOft
          Antony Trenker.(Author)
20 PAPER 0:CLS:CLS£0
30 CSIZE 3,1:OVER 1
40 FOR n=1 TO 6 STEP 2:INK n:CURSOR 1
20+n,90+n:PRINT'CUBE CRAWLER'
50 FOR n=50 TO 1 STEP -4:BEEP 5000,n:
BORDER n,n*5
60 PAUSE 150
70 CLS
80 CSIZE 0,0:OVER 0
90 initialise
100 fall_cube
110 i$=INKEY$:IF i$='' THEN IF a%(xx%
,yy%+1)>1 THEN a%(xx%,yy%+1)=a%(xx%,y
y%+1)+RND(5)+1:IF a%(xx%,yy%+1)>95 TH
EN a%(xx%,yy%+1)=0:GO SUB 700:GO TO 2
50
120 fall_cube
130 IF i$='' THEN GO TO 250
140 OVER 1:POINT RND(150)+20,RND(100)
:OVER 0
150 fall_cube
160 IF i$='z' THEN crawl_left:GO TO 1
00
```

```
170 IF i$='x' THEN crawl_right:GO TO
100
180 IF i$='a' THEN go_left:GO TO 100
190 IF i$='s' THEN go_right:GO TO 100
200 IF i$='q' THEN jump_left:GO TO 10
0
210 IF i$='w' THEN jump_right:GO TO 1
00
220 fall_cube
230 IF i$='1' THEN big_jump=1:jump_le
ft:big_jump=0:jump_left:GO TO 100
240 IF i$='2' THEN big_jump=1:jump_ri
ght:big_jump=0:jump_right
250 IF CODE(i$)=192 THEN a%(xx%-1,yy%
)=0:AT yy%,xx%-1:INK 2:PRINT":":INK 7
:BEEP 10000,0,100,4,4:energy=energy-1
00
260 IF CODE(i$)=200 THEN a%(xx%+1,yy%
)=0:AT yy%,xx%+1:INK 2:PRINT":":INK 7
:BEEP 10000,0,100,4,4:energy=energy-1
00
270 energy=energy-1:IF energy<0 THEN
```

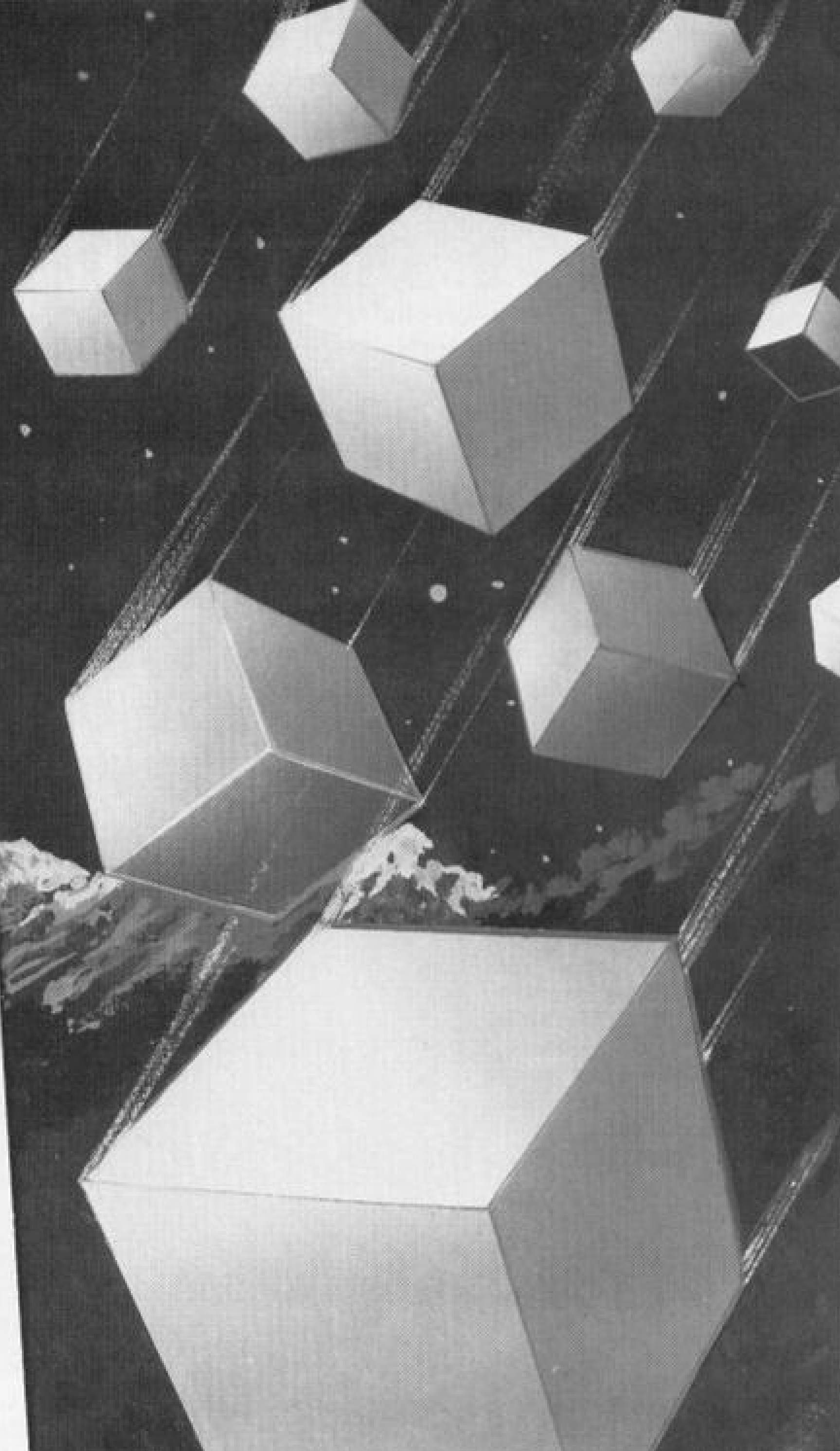
# CUBE CRAWLER



COLS:
Z: left
X: right
A:
S: nt
Q: left
W: right
1: hp lef
2: hp rig

# Cube Crawler for Sinclair QL

```
you_die
280 fall_cube
290 AT£0,0,0:PRINT£0,'ENERGY ';:INK£0
,3:PRINT£0,energy;' ':INK£0,7:PRINT£0
,'TIME ';:INK£0,5:PRINT£0,DATE$:INK
£0,7:IF a%(xx%,yy%+1)>1 THEN PRINT£0,
'HARD ';:INK£0,2:PRINT£0,100-a%(xx%
,yy%+1);' ':INK£0,7
300 GO TO 100
310 DEFine PROCedure crawl_left
320 IF a%(xx%-1,yy%+1) THEN BEEP 10,2
:RETurn
330 AT yy%,xx%:PRINT' ':xx%=xx%-1:yy%
=yy%+1:you
340 FOR n=5 TO 255 STEP 20:BEEP 100,n
350 END DEFine
360 DEFine PROCedure crawl_right
370 IF a%(xx%+1,yy%+1) THEN BEEP 10,2
:RETurn
380 AT yy%,xx%:PRINT' ':xx%=xx%+1:yy%
=yy%+1:you
390 FOR n=5 TO 255 STEP 20:BEEP 100,n
400 END DEFine
410 GO TO 100
420 DEFine PROCedure go_left
430 IF xx%=0 THEN BEEP 10,2:RETurn
440 IF a%(xx%-1,yy%) THEN BEEP 10,2:R
ETurn
450 AT yy%,xx%:PRINT' ':xx%=xx%-1:you
460 BEEP 100,25
470 GO TO 690
480 DEFine PROCedure go_right
490 IF xx%=35 THEN BEEP 10,2:RETurn
500 IF a%(xx%+1,yy%) THEN BEEP 10,2:R
ETurn
510 AT yy%,xx%:PRINT' ':xx%=xx%+1:you
520 BEEP 100,25
530 GO TO 690
540 DEFine PROCedure jump_left
550 IF xx%=0 THEN BEEP 10,2:RETurn
560 IF a%(xx%-1,yy%-1)=2 THEN BEEP 99
9,0:energy=energy+RND(100)+100:a%(xx%
-1,yy%-1)=1:INK 5:AT yy%-1,xx%-1:PRIN
T'I':OVER -1:AT yy%-1,xx%-1:PRINT'H':
OVER 0:INK 7:GO TO 690
570 IF a%(xx%-1,yy%-1) THEN BEEP 10,2
:GO TO 690
580 AT yy%,xx%:PRINT' ':xx%=xx%-1:yy%
=yy%-1:you
590 BEEP 100,25
600 IF big_jump THEN RETurn
610 GO TO 690
620 DEFine PROCedure jump_right
630 IF xx%=35 THEN BEEP 10,2:RETurn
640 IF a%(xx%+1,yy%-1)=2 THEN BEEP 99
9,0:energy=energy+RND(100)+100:a%(xx%
+1,yy%-1)=1:INK 5:AT yy%-1,xx%+1:PRIN
T'I':OVER -1:AT yy%-1,xx%+1:PRINT'H':
OVER 0:INK 7:GO TO 690
650 IF a%(xx%+1,yy%-1) THEN BEEP 10,2
:GO TO 690
660 AT yy%,xx%:PRINT' ':xx%=xx%+1:yy%
=yy%-1:you
670 BEEP 100,25
680 IF big_jump THEN RETurn
690 IF a%(xx%,yy%+1) THEN RETurn
700 AT yy%,xx%:PRINT' ':yy%=yy%+1:you
710 BEEP 5000,10*yy%,100,2,2,0,0,0
720 GO TO 690
730 DEFine PROCedure fall_cube
740 IF y%=yy% THEN IF x%=xx% THEN you
_die
750 IF y%+1=yy% THEN IF x%=xx% THEN e
nergy=energy-RND(10)-10:BEEP 500,255:
a%(x%,y%)=2:AT y%,x%:INK 5:PRINT'7':I
NK 7:x%=RND(0 TO 35):y%=5:RETurn
760 IF a%(x%,y%+1) THEN a%(x%,y%)=5:B
EEP 1000,100,255,8,2,0,0,15:x%=RND(0
TO 35):y%=0:RETurn
770 AT y%,x%:PRINT' '
780 y%=y%+1
790 INK 34
800 AT y%,x%:PRINT CHR$(174)
810 INK 7
820 END DEFine
830 DEFine PROCedure you
840 AT yy%,xx%:PRINT '£'
850 OVER -1
860 AT yy%,xx%:PRINT 'A'
870 OVER 0
880 END DEFine
890 DEFine PROCedure initialise
900 big_jump=0
```



```
910 OVER -1
920 DIM a%(36,18)
930 energy=1000
940 SDATE 1984,1,1,0,0,0
950 CLS£0
960 xx%=RND(34):yy%=0
970 y%=18
980 FOR n=0 TO 35
990 x%=n:GO SUB 790
1000 a%(n,18)=1
1010 END FOR n
1020 BLOCK 430,4,2,189,3
1030 x%=10:y%=1
1040 you:go_left
1050 END DEFine
1060 DEFine PROCedure you_die
1070 FOR n=0 TO 100:BEEP 1000,n
1080 FLASH£0,1:INK £0,4
1090 PRINT£0,'CRUSHED AND DEFEATED BY
 CUBES YOU DIE'
1100 FLASH£0,0:INK £0,6
1110 PRINT £0,'Your score was ';(100-
yy%)*energy
1120 FOR n=1 TO 1000:NEXT n
1130 RUN
```

Please note that the pound sign should really be a hash shape as used in asigning channel numbers. This is just the fault of the printer.

CO LS:
Z: C left
X: C right
A: G t
S: G ht
Q: J left
W: right
1: B mp left
2: B mp right

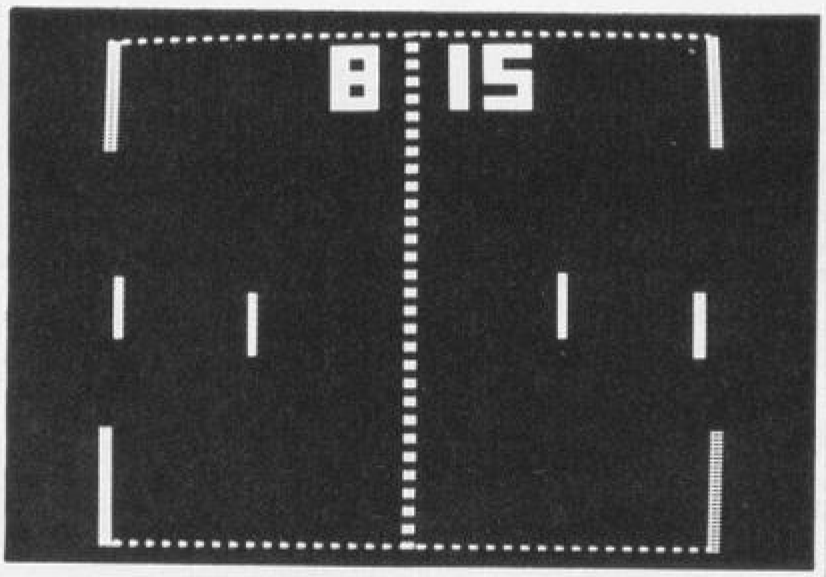
## No. 9: PONG (Atari) By STEVE KEATON

# The blip-blap-blip That Saved A Generation

PEOPLE, UNLIKE CBMs, have poor memories. I mean, how many can recall the first video game?

Come on now, really think about it. Rack that grey matter. What would you say? *Pac-Man?* Leave the room immediately! *Space Invaders?* Go take a stint on *Codename Mat! Pong?* Well — close but no cigar. The first marketed video game was in fact something called *Computer Space!* It appeared in November '71 and was distributed by nutting Associates of California, USA. Interesting, huh? It never set the world aflame though. The game bombed and fewer than 3,000 *Computer Space* machines were made. Its only surviving relative is an elderly VCS ROM called *Space War.* T'was hardly a classic.

*Pong* was actually the *second* video game to hit the market. But unlike *Computer Space* it struck gold. Radical and innovative (for the period) it proved instrumental in reshaping the planet's leisure habits. I mean, we're talking real history here! In these more enlightened times though, it may be difficult to imagine the kind of excitement that The Pong Machine generated. This absurdly modest slice of arcadia (black & white display, no-res graphics) drained the pockets of millions!




### VERTICAL

It was essentially a two-player game that involved waving a short, thick vertical line (known in the trade as a paddle) frantically about in an attempt to deflect a tiny white dot travelling across the screen. Play was purely defensive. You didn't so much hit the ball as allow it to rebound off you paddle and return to your opponent's side. Points were scored (negatively) every time a ball was missed. The first to score fifteen points won. Hey, don't scoff Expert Pongsters could estimate the speed of an approaching ball, calculate its trajectory and predict the optimum deflection point all within the twinkling of an experienced eye. They contrasted dramatically with those casual players who could often be seen spinning their control knobs about in a desperate attempt to create a solid, impenetrable paddle wall. The tactic looked good of course, but never worked.

It's impossible to calculate exactly how many Pong machines eventually made it onto the market. Copies and variants proliferated in the arcades and it soon invaded the home as well, via a number of small, dedicated Telly Pongs. Many a tennis image was indelibly etched into the tube of an unsuspecting TV. My personal Pong was the Grandstand match of the Day 2000. As you m ight imgagine this was no run of the mill unit. No sir, this was a deluxe version capable of not only *Tennis Pong,* but *Squash* and *Footer Pong* too! The thing had a brain the size of a planet. Durable too. Imagine my surprise when dusting off the ancient beast I discovered that it was not only still alive but anxious to thrash the pants off me! I don't mind saying that after years of slugging it out with increasingly sophisticated playware this simple creature stomped me well and truly into the ground. it actually stands the test of time well and would certainly earn a triple K addictiveness rating were it to come under review again.

### BUSHNELL

*Pong* was also the game that scrawled the name of Nolan Bushnell indelibly into the annals of Komputer Kulture and established Atari as a multi-million-dollar company. Popular legend has it that Bushnell (born on February 5 1943 to Mormon parents in Ogden, Utah), along with fellow electrical engineer Ted Dabney, created Pong sometime around November '72. Legend also credits them with devising its predecessor, *Computer Space.* With barely a cent to their name, they formed a company called Syzygy, changed it to Atari, launched Pong and then sat bug-eyed as the bread began to roll in. Four years later Bushnell sold Atari to Warner Communications for around 30 million greenbacks (much to their eternal regret) and the rest is pretty much vid-history.

However while Bushnell and Dabney were indesputably instrumental in putting both *Pong* and *Computer Space* into the arcades, I personally think it kinda doubtful that they ever really created it. The earliest tennis game that I know of was actually invented by a bespectacled boffin called William Higinbotham. Back in 1958 Willy produced a version that ran on an Oscilloscope in the Brookhaven National Laboratory in Upton, New York! This Pong beat Bushnell's by more than a decade. Higinbotham's other main claim to fame involved devising the timing circuits of the first atomic bomb (not a lot of people know that). Similarly my files detail a *Computer Space* variant known as *Spacewar* making an appearance back in 1962, at an MIT open house. it apparently ran on an old crock called a PDP-1 which sprawled across a continent yet was hard pressed to deliver more than 9K! The roots of *Pong* are clearly long and varied.

### PIZZA

The last I heard of Nolan Bushnell he was head honcho of Pizza Time Theatre, a fast food chain boasting a huge grey rodent mascot called Chuck E. Cheese. Kind of appropriate, I'm sure you'll agree.



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# MANIC MOWER

by MR Tuck for Spectrum 48K

```
   1 LET h=1: LET h$="Fred": GO
SUB 5000
   2 LET n=0: LET t=0: LET m$="▒
▒▒": LET l$="▒▒▒▒": LET z$="▒▒▒
▒"
   4 INK 0: BORDER 0: PAPER 4: C
LS : LET e=0: LET r=0: LET z=0:
LET g=0: LET o=0: LET k=0: LET b
=0: LET w=0: LET p=0
   5 LET di=INT (RND*8): IF di=3
 THEN GO TO 5
   6 LET ci=1+INT (RND*6): LET r
i=INT (RND*3)
   8 LET n=n+1: PRINT #0;AT 0,10
;"Mower Mania": FOR f=0 TO 31: P
RINT AT 6,f; INK 3; PAPER 7;"▒";
AT 21,f;"▒": NEXT f
   9 FOR f=7 TO 20: PRINT AT f,0
; INK 3; PAPER 7;"▒";AT f,31;"▒"
: NEXT f
  10 BRIGHT 1: PRINT AT 0,10; PA
PER 7; INK ri;"▒▒▒▒▒▒▒▒▒"; INK 3;
"▒"; INK ri;"▒▒";AT 1,10;"▒▒▒▒▒▒▒
▒"; INK 3;"▒▒▒"; INK ri;"▒";AT 2
,10;"▒▒▒▒▒▒▒"; INK 3;"▒▒▒▒▒▒"
  12 PRINT AT 3,10; PAPER 7; INK
 3;"▒▒▒▒▒▒▒▒▒▒▒▒";AT 4,10;"▒▒"; I
NK ci;"▒"; BRIGHT 0;" "; BRIGHT
1;"▒"; INK 3;"▒▒▒"; PAPER di; IN
K 9;n; PAPER 7; INK 3;"▒▒"
  13 PRINT AT 5,10; PAPER 7; INK
 3;"▒▒"; INK ci;"▒"; BRIGHT 0; I
NK 7;"▒"; BRIGHT 1; INK ri;"▒";
INK 3;"▒▒▒"; INK di; PAPER 9;"▒"
; INK 3;"▒▒";AT 6,10;"▒▒▒▒▒▒▒▒▒▒";
 PAPER 7; INK di;"▒"; INK 3;"▒▒"
  14 FOR f=0 TO 5: BRIGHT 0: PRI
NT AT f,0; INK 5;"▒▒▒▒▒▒▒▒▒▒";AT
 f,21;"▒▒▒▒▒▒▒▒▒▒": NEXT f
  15 PRINT AT 1,2; INK 1; PAPER
5;"PROFIT";AT 3,2;"£";t;AT 1,21;
"HIGH £";h;AT 3,21;"by ";h$
  20 GO SUB 1000: GO SUB 2000
  21 LET m=419-(fr*fl)-((gr*gl)
AND n>1)-p-z-b
  25 LET x=13: LET y=15: LET x1=
5: LET y1=9: GO SUB 100
  29 GO TO 200
  30 IF g=m THEN LET c$="Well do
ne. You finished the lawn": GO T
O 4000
  35 IF SCREEN$ (x,y)<>" " OR a<
>32 THEN GO TO (500+a)
  37 LET g=g+1
  40 PRINT AT x,y; BRIGHT 1;l$(d
);AT x1,y1;m$(d);AT x2,y2;" ": G
O TO 200
  50 FOR f=0 TO -12 STEP -1: BEE
P .01,f: NEXT f: RETURN
 100 FOR d=1 TO 4: PRINT AT x,y;
l$(d): BEEP .25,d: IF INKEY$<>""
 OR 255>IN 31>0 THEN RETURN
 105 NEXT d: GO TO 100
 200 LET x2=x1: LET y2=y1: LET x
1=x: LET y1=y
 205 LET x=x+(d=2)-(d=3): LET y=
y+(d=4)-(d=1)
 210 LET a=ATTR (x,y)
 215 IF INKEY$="a" OR IN 31=8 TH
EN LET d=3
 220 IF INKEY$="z" OR IN 31=4 TH
EN LET d=2
 225 IF INKEY$="n" OR IN 31=2 TH
EN LET d=1
 230 IF INKEY$="m" OR IN 31=1 TH
EN LET d=4
 235 GO TO 30
 503 GO TO 507
 504 GO SUB 50: LET e=1: LET c$=
"Got anything for bee stings ?":
 LET e$=" Bee sting ointment cos
ts": GO TO 4000
 507 LET k=k+1: GO TO 40
 520 GO SUB 50: LET e=1: LET c$=
"Fred has a short back & sides !
": LET e$="Vet fee for Fred will
 cost": LET v=11: GO TO 3900
 532 FOR f=25 TO 30: BEEP .003,f
: NEXT f: LET w=w+1: GO TO 37
 539 BEEP .1,-10: LET r=r+10+INT
 (RND*21): GO TO 40
 552 GO SUB 50: LET c$="You've j
ust made pumpkin squash!": LET v
=11: GO TO 3900
 555 IF g<m/2 THEN LET c$="My ga
rden looks like a jungle !"
 556 IF o>g/5 THEN LET c$="My po
or lawn looks quite bald !"
 557 IF k>=4 THEN LET c$="You've
 ruined my lovely flowers!"
 558 GO TO 3900
 559 GO SUB 50: LET c$="Your mow
er needs 'mower' repairs": LET v
=31: GO TO 555
 560 GO SUB 50: LET e=1: LET c$=
"You have left a broken gnome !"
: LET e$="Glue to stick gnome co
sts": LET v=11: GO TO 3900
 596 LET o=o+1: GO TO 40
 601 BRIGHT 1: PRINT AT x2,y2; I
NK 4;"▒";AT x1,y1; INK 0;m$(d);
PAPER 5;AT x,y;l$(d): FOR f=0 TO
 -10 STEP -1: BEEP .1,f: NEXT f:
 PRINT AT x,y; PAPER 5;" ": BRIG
HT 0
 602 FOR f=-11 TO -20 STEP -1: B
EEP .1,f: NEXT f: LET c$="Sorry,
 but mowers do not float !": LET
 v=41: GO TO 3900
 628 GO TO 559
1000 LET fy=1+INT (RND*13): LET
fx=7+INT (RND*13): LET fl=2+INT
(RND*9)
1001 LET gy=16+INT (RND*14): LET
 gx=8+INT (RND*12): LET gl=2+INT
 (RND*9)
1002 IF fx-fl>9 THEN LET fx=fx-1
1003 IF fy+fl>14 THEN LET fy=fy-
1
1004 IF gx-gl>9 THEN LET gx=gx-1
1005 IF gy+gl>31 THEN LET gy=gy-
1
1006 IF fx-fl>9 OR fy+fl>14 OR g
x-gl>9 OR gy+gl>31 THEN GO TO 10
02
1007 LET f$="●●●●●●●●●●●"( TO fl)
: LET fr=12-fl: LET g$="●●●●●●●●●
●●"( TO gl): LET gr=12-gl
1008 LET fi=2+INT (RND*6): IF fi
=4 THEN GO TO 1006
1009 LET gi=2+INT (RND*6): IF gi
=4 THEN GO TO 1006
1010 FOR f=1 TO fr: PRINT AT fx,
fy; INK fi; PAPER 0;f$: LET fx=f
x+1: NEXT f
1011 IF n>1 THEN FOR f=1 TO gr:
PRINT AT gx,gy; INK gi; PAPER 0;
g$: LET gx=gx+1: NEXT f
1500 IF n<4 THEN RETURN
1501 LET b=2+INT (RND*3)
1502 FOR f=1 TO b
```



# MANIC MOWER for Spectrum

In these days of recession, it's not easy to scrape an honest living at times. But there's always a lawn waiting to be mown, so a quick investment in the latest grass removal technology, and off we go. Trouble is, it's not as easy as it looks. Mind you don't smash your mower on those walls, because it'll cost you for repairs. Above all, watch out for the customers' flower beds — they get very upset at the sight of beheaded dahlias, and you may lose some of your wages. Persistence and hard work will stand you in good stead in this field!

Controls:
A: Mow up
Z: Mow down
N: Mow left
M: Mow right

```
1503 LET by=1+INT (RND*30): LET
bx=7+INT (RND*14)
1504 IF ATTR (bx,by)<>32 OR (bx=
13 AND by=15) THEN GO TO 1503
1505 PRINT AT bx,by; INK 7; PAPE
R 4;"▲": NEXT f
2000 IF n<5 THEN RETURN
2001 LET py=1+INT (RND*29): LET
px=7+INT (RND*12)
2002 IF (px=13 AND py=15) OR (px
=12 AND py=15) OR (px=13 AND py=
14) OR (px=12 AND py=14) THEN GO
 TO 2001
2003 IF ATTR (px,py)<>32 OR ATTR
 (px+1,py)<>32 OR ATTR (px,py+1)
<>32 OR ATTR (px+1,py+1)<>32 THE
N GO TO 2001
2004 PRINT AT px,py; INK 5; BRIG
HT 1;"██";AT px+1,py;"██"; BRIGH
T 0: LET p=4
2500 IF n<6 THEN RETURN
2501 LET z=n-5: LET zn=3
2502 FOR f=1 TO z
2503 LET zy=1+INT (RND*30): LET
zx=7+INT (RND*14)
2504 IF ATTR (zx,zy)<>32 OR (zx=
13 AND zy=15) THEN GO TO 2503
2505 LET zi=4-zn: IF zi=3 THEN L
ET zi=7
2506 IF zi=2 THEN LET zi=6
2507 PRINT AT zx,zy; INK 4; PAPE
R zi; INVERSE 1;z$(zn); INVERSE
0: LET zn=zn-1: NEXT f: RETURN
3000 IF n<3 THEN RETURN
3001 LET wn=3+INT (RND*4)
3002 FOR f=1 TO wn
3003 LET wy=1+INT (RND*30): LET
wx=7+INT (RND*14)
3004 IF ATTR (wx,wy)<>32 OR (wx=
13 AND wy=15) THEN GO TO 3003
3005 PRINT AT wx,wy; INK 0; PAPE
R 4;"%": NEXT f: RETURN
3900 LET r=r+10+INT (RND*v)
4000 PRINT #0;AT 0,0;c$: FOR f=1
 TO 300: NEXT f
4050 LET s=((g*2)-p-(r*10)+(w*5)
)/100: IF s<0 THEN LET s=0
4055 BORDER 1: CLS : PRINT AT 3,
2;"You receive payment of "; FLA
SH 1;"£";s
4060 LET t=t+s: PRINT AT 6,1;"Yo
ur total earnings so far are ";A
T 8,14;"£";t
4065 LET r=INT (r*7)/100
4070 PRINT AT 12,1;"Cost of mowe
r repairs is £";r
4075 IF e THEN LET e=(8+INT (RND
*27))*7/100: PRINT AT 15,0;e$;"
£";e: LET r=r+e
4090 LET t=t-r: IF t<0 THEN LET
j$="You've not enough money left
": GO SUB 4100: GO TO 4500
4092 IF n=9 THEN LET j$="You hav
e finished the street": GO SUB 4
100: GO TO 4500
4095 LET j$="ANY KEY TO ENTER NE
XT GARDEN": GO SUB 4100: PAUSE 0
: GO TO 3
4100 FOR f=1 TO 28: PRINT AT 20,
f; BRIGHT 1;j$(f);"EX": BEEP .1,
f-28: NEXT f: RETURN
4500 FOR f=1 TO 400: NEXT f: BOR
DER 2: CLS : PRINT AT 2,3;"You m
anaged to earn £";ABS t;AT 2,18;
("lose" AND t<0)
4505 IF t>h THEN PRINT AT 5,0;"Y
ou have achieved the high score"
: LET h=t: INPUT "ENTER NAME..."
;h$
4510 FOR f=8 TO 11: FOR g=6 TO 2
5: PRINT AT f,g; INK INT (1+(RND
*7)); PAPER 0;"●": NEXT g: NEXT
f
4515 PRINT AT 9,8;"HIGH SCORE £"
;h;AT 10,14-LEN h$/2;"by "; FLAS
H 1;h$; FLASH 0
4520 LET j$=" PRESS ANY KEY TO M
OW AGAIN ": GO SUB 4100: PAUSE 0
: GO TO 2
5000 FOR n=USR "a" TO USR "p"+7:
 READ x: POKE n,x: NEXT n
5005 PAPER 0: BORDER 0: INK 4: C
LS : PRINT AT 0,0;"[graphics]"
5010 PRINT AT 3,0; INK 0; PAPER
4;" © 1983 by H.R.T...
"; INK 7; PAPER 0;"EX"
5015 PRINT AT 6,0;"Mow the grass
 and weeds. Avoid"''"walls,flowe
rs,rocks etc. Try not"''"to over
mow too much! Use keys..."''"A-u
p   Z-down   N-left   M-right"
5020 PRINT AT 15,0; PAPER 4; INK
 0;" Press any key to start mowi
ng  ": PAUSE 0 : RETURN
5021 DATA 126,130,133,15,15,133,
130,126,60,219,189,153,129,129,1
29,102,102,129,129,129,153,189,2
19,60,126,65,161,240,240,161,65,
126
5022 DATA 248,244,242,241,241,24
2,244,248,24,36,66,129,255,255,2
55,255,255,255,255,255,129,66,36
,24,31,47,79,143,143,79,47,31
5023 DATA 0,254,254,254,0,239,23
9,239,1,60,66,255,129,255,137,12
6,56,84,214,214,214,214,84,56
5024 DATA 24,16,186,124,254,254,
124,186,0,24,60,60,127,127,255,2
55
5025 DATA 64,164,170,74,68,85,10
1,6,0,60,126,255,255,255,126,60
5026 DATA 192,162,197,9,241,224,
200,248
```




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# 'Probably The Best Soundchip Of All Time'

—Andy Previn (no relation)

The CBM 64 sound chip ('SID') has been getting a lot of attention lately — and not without reason. BILL BENNETT reviews a selection of commercial tunesmith packages for the 64 (pages 51-54), while KIM ALDIS wraps up his assessment of SID's architecture (page 54).

COMMODORE'S SID chip is probably the best piece of music hardware available anywhere on today's low-cost computers. However most people have difficulty coming to grips with the 'synth on a chip' because of the naff Basic on the 64.So micro-computing musos have two options: learn machine-code programming, or buy a software package to coax sound from the silicon.

I looked at four commercial packages, and discovered that they have a surprising number of common features. All the packages cost a little more than you normally expect to pay for software. Utilities often come at a premium price. All of the packages go in for interesting user interfaces — in most cases laying out the facilities of the SID chip in a style that approximates to a synthesiser panel. And all the packages go in for using the qwerty keyboard as a kind of mock-piano.

This last feature is really annoying. Clearly the programmers who designed this software can't be musicians. as a writer, I can find my way around a typewriter keyboard quite adequately. As a spare time musician I can just about find my way around a piano keyboard. But the two are very different beasts, and should remain separate. Even Elton John would be put off his stride if he had to play a typewriter instead of a piano, and I doubt if Barry Manilow could see a computer keyboard over his nose.

Of all the packages, the best is *Musicalc*. It isn't only the best musical software for the 64, it is also the most comprehensive, but more to the point it is very expensive. Costing around £50, you would expect Musicalc to be pretty radical. Fortunately, it is.

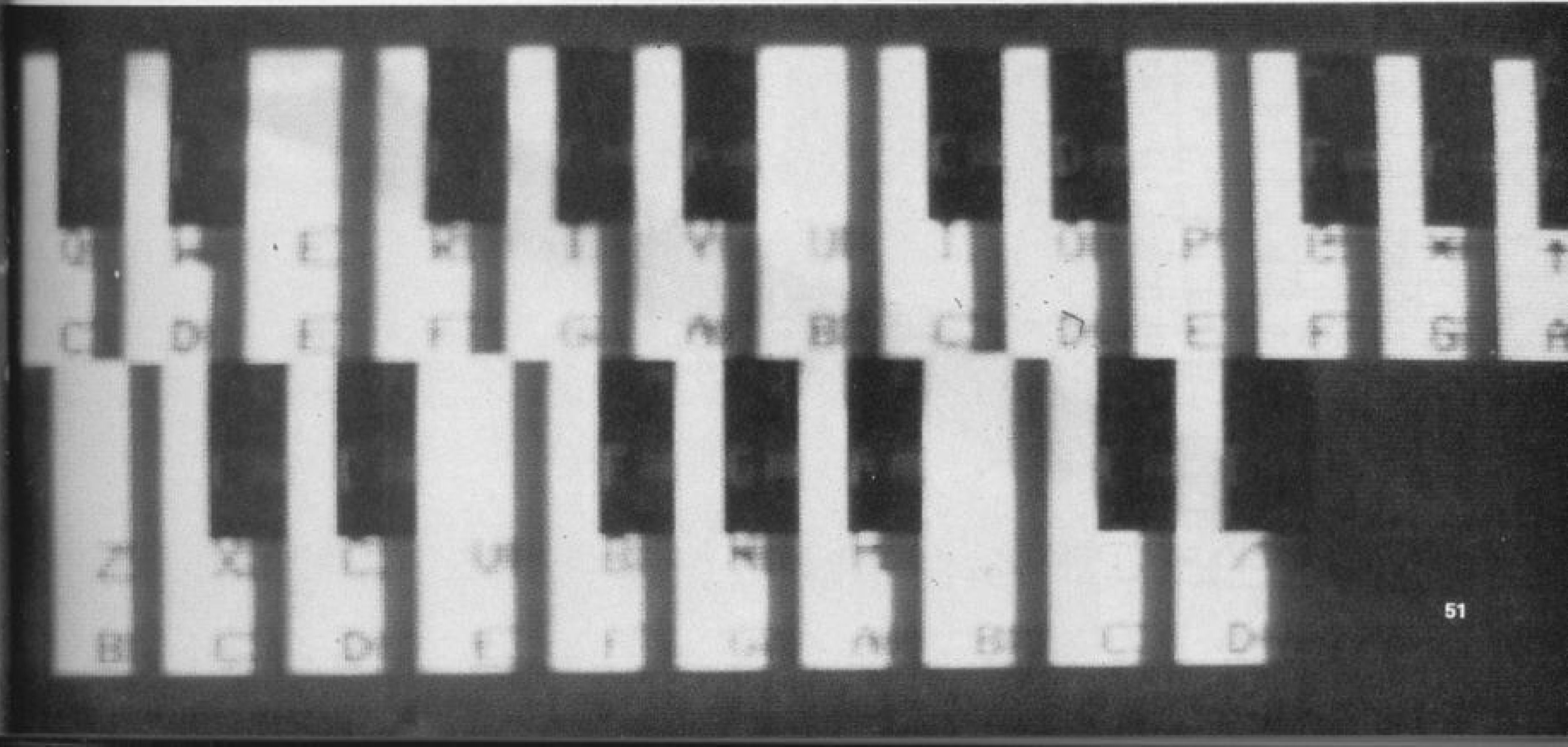
*'Musicalc may look like the world's first coffee-table software pack, but it really IS impressive'*

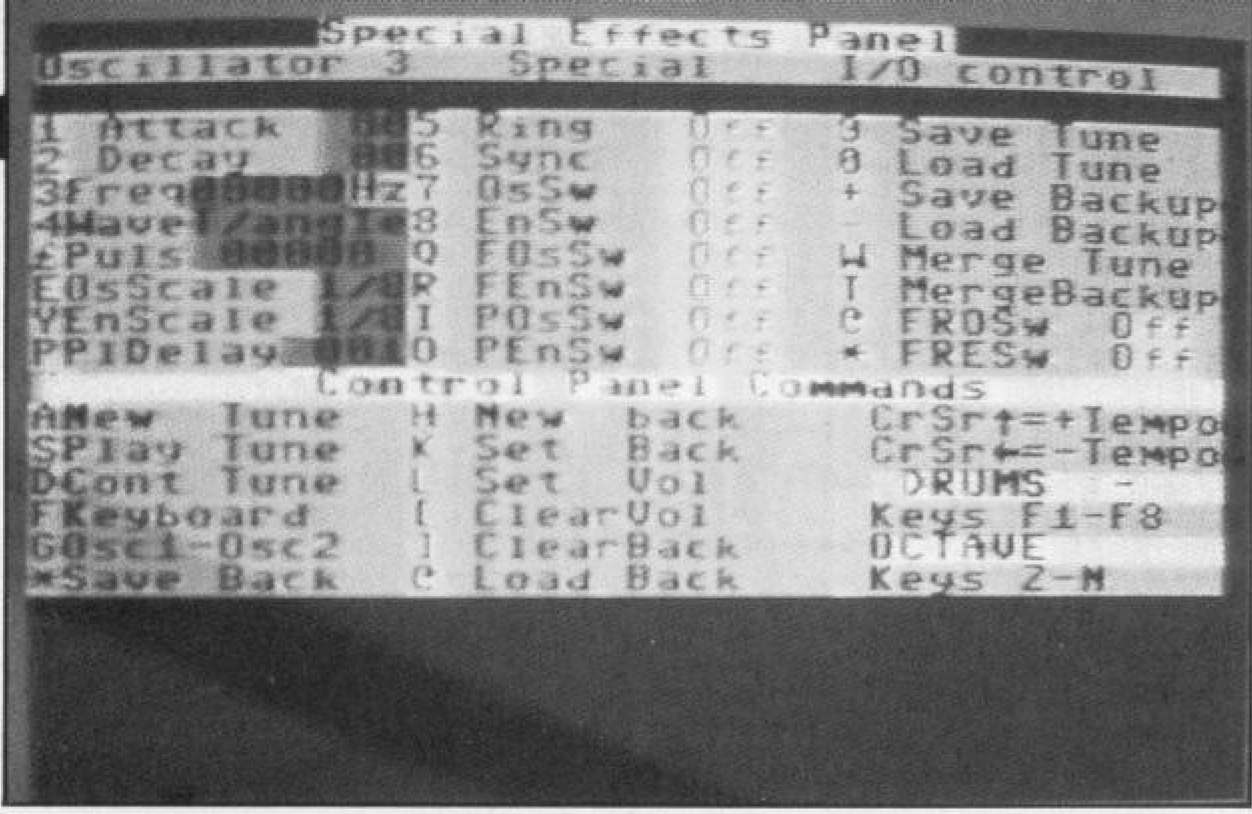
## PACKAGING FIT FOR A KING

MUSICALC COMES on disc, but the distributors promise a cassette version some time in the near future. This should cost less and open up the package to a wider audience. Its packaging is sumptuous, which goes some way towards justifying the high cost. The whole caboodle is wrapped in a full-colour gatefold sleeve much the same as a half-size record cover. Inside is a manual, or rather a small book, which, like the sleeve, is well designed as well as useful. The floppy disc itself has photographic case, the cover it sits in being made of clear plastic software's answer to the picture-disc. A quick-reference card and a warranty slip make up the rest of the contents.

In many ways *Musicalc* can be described as the world's first coffee-table software package. By this I mean it has a high pose value. Leave *Musicalc* lying around, and invite your computerist chums around, before long they'll notice it and be suitably impressed. Not only does *Musicalc* look impressive, either sitting in its packaging, or on the screen, it actually *is* impressive.

*Musicalc's* front panel is a triumph of ergonomics — the art of squeezing a quart into a pint pot. It not only contains a complete visual display of the state of play regarding SID's registers, but it also shows a representation of the three voices sauntering through the sequencer section. Three






*ROMIK'S MULTISOUND SYNTHESIZER: converted from a Vic program.*

coloured squares dance around the right-hand section of the screen in mesmerising patterns, and provided the TV volume, and the SID chip volume are both activated, three-part music caresses your lug-holes.

## IS THIS THE DEATH OF THE RECORD PLAYER?

APPARENTLY in the US you can now buy albums of music to use with *Musicalc*. They simply load in as data files, and play for you. There is even one such album of Christmas carols. Personally I think this is totally missing the point about such a package; after all, good though the SID chip may be, it isn't likely to replace the record player or radio in a hurry. If your musical taste is Beethoven or *The Birdie Song*, the fun of *Musicalc* is entering the music yourself, and designing the voices to play it — known as patching the synthesiser. I like to use *Musicalc* as a composing tool, and on the whole it is very good. There are certain limitations but these are for the most part hardware limitations rather than any faults in *Musicalc*.

It is possible to create fairly convincing drum rhythms on one voice, a bass-line on a second, and a lead part on the third. As a composing tool this is fine, but I wish there were a few more voices. I like to write my music using chords, and many chords (such as sevenths) require four voices. And you still need the bass and drums on top of that. Oh for a better synthesiser chip. *Musicalc* takes a long time to load, even though it comes on disc. *Musicalc* files — that is the music you compose together with the synthesiser patches — can be saved and loaded to from discs, but this also takes a long time. *Musicalc* files are also very large, and you can't store very many on a disc.

*'You can now buy albums of music for use with Musicalc — they load as data files'*

## SON OF MUSICALC

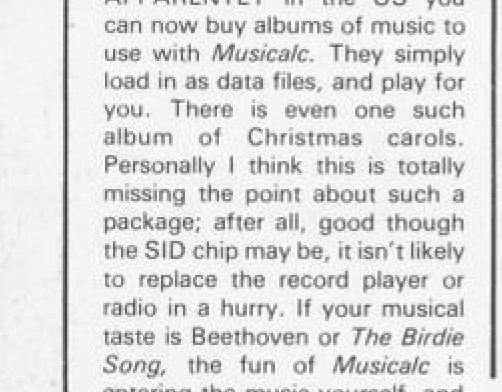
*Musicalc* is a complete package in itself, yet the world of *Musicalc* is open-ended. Son of Musicalc, or *Musicalc 2*, as the publisher calls it, allows sequences to be strung together, and provides a printing facility as well as a sync pulse which sends out pulses to a drum machine or synthesiser allowing the two instruments to play together. The printing facility is a bit disappointing; it *should* allow *Musicalc* files to be printed as sheet music, but it only works in conjunction with an obscure Vic Printer, which almost no-one owns, or with an Epson via an obscure interface. Still as a consolation, your musical endeavours still get immortalised on screen. Other expansions are in the pipeline, including a MIDI-interface, and some drum patterns for you to build songs around. There is also a *Musicalc* user group, which provides support for the products, and offers a discount on some of them.

## ROLL OVER BEETHOVEN

COMMODORE'S VERY own *Music Composer* is a different kettle of fish altogether. Supplied on cartridge, this package is not the most impressive piece of software, and in no way an advertisement for Commodore's product. However, it is not expensive at around £10, and has the advantage of being a cartridge and thus loads in an instant. Simply shove it in the back of your 64, and hit me baby, eight beats to the bar.

Of course if you forget to turn your computer off, then you could have a disaster on your hands. I might have felt more charitable about the program had the documentation been better, but my copy came with a very inadequate little booklet. I get the impression that Commodore think users are all psychic.

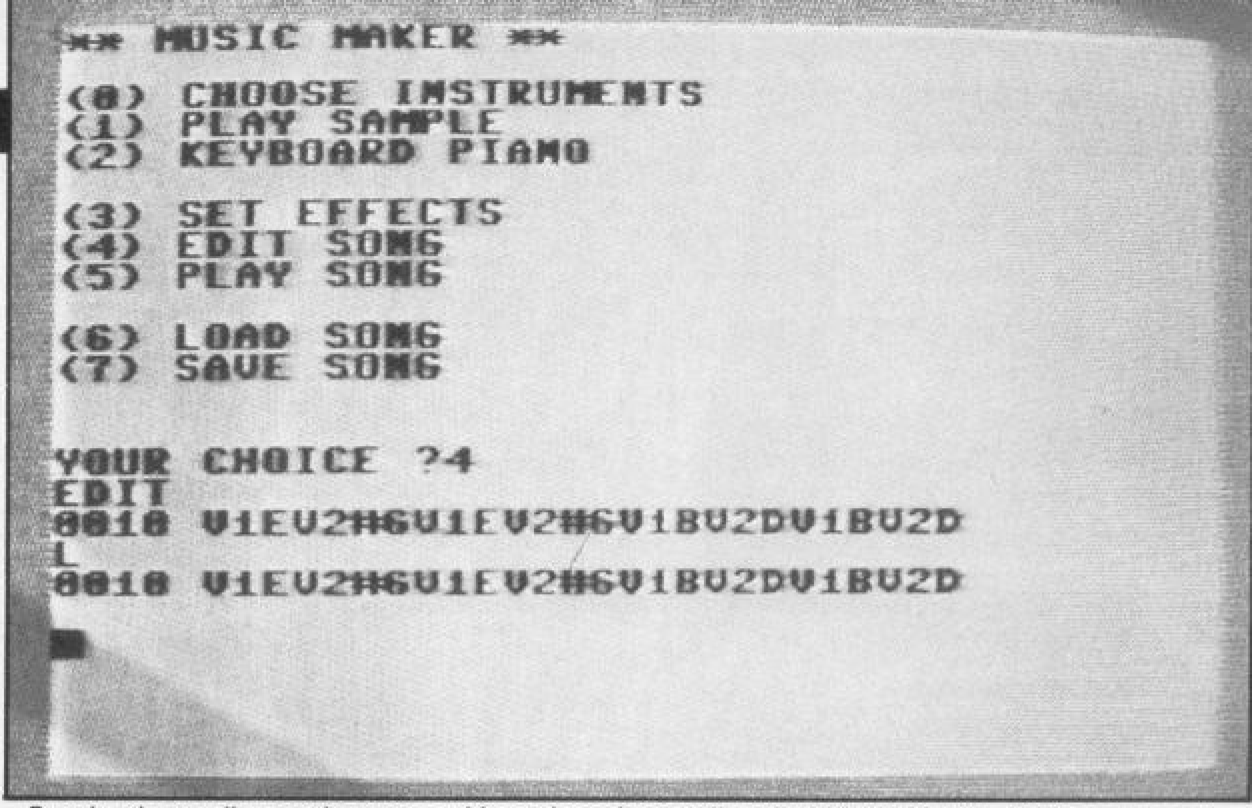
Once the computer is switched on, a menu confronts you, but there is no wealth of options open here. I sometimes






*MULTISOUND SYNTHESIZER'S terribly friendly front panel, with synth-style sliders and faders.*

wonder about Commodore products. After all, the facilities offered on this cartridge are no more than most manufacturers would supply as part of BASIC. However, just to prove that the programmers at Commodore are hip to the beat of the street, an example tune has been included to show off the software. What harmonic confection did these cool cats choose to massage our brain cells with? *Karma Chameleon, Two Tribes?* Not a bit of it, those cheeky Commodore hipsters chose 'Jesu, Joy of Man's Desiring'. (Johann Sebastian) Crazy, man, crazy.




***Despite the top line on the screen, this package is actually called Music Master. Music composed can be saved and later used in BASIC programs.***

## USER HOSTILE SOFTWARE

MUSIC COMPOSER isn't going to set anyone's pulse racing — it's a rare example of a user-hostile program. Using the weird semi-programming language to write three-part tunes is not easy. Especially as you have to perform mental gymnastics to synchronise the three voices properly. I'm sure that it would be easier to learn machine-code programming to produce music than use this package. Still, I persevered and managed to work my way through the OMD songbook converting *Enola Gay* to weirdo-code adequately enough. Once entered the songs played well enough, but it took me ages. I spent a year playing with the *Music Composer* one afternoon.

*Music Composer* isn't all that hot on the patching front either. Yet the preset voices are in fact very good, and very useful. I was impressed by the way that entered tunes dance across the screen in sheet music form as the computer tinkles those silicon ivories. But it passes a little too quickly for me to sight-read and accompany.

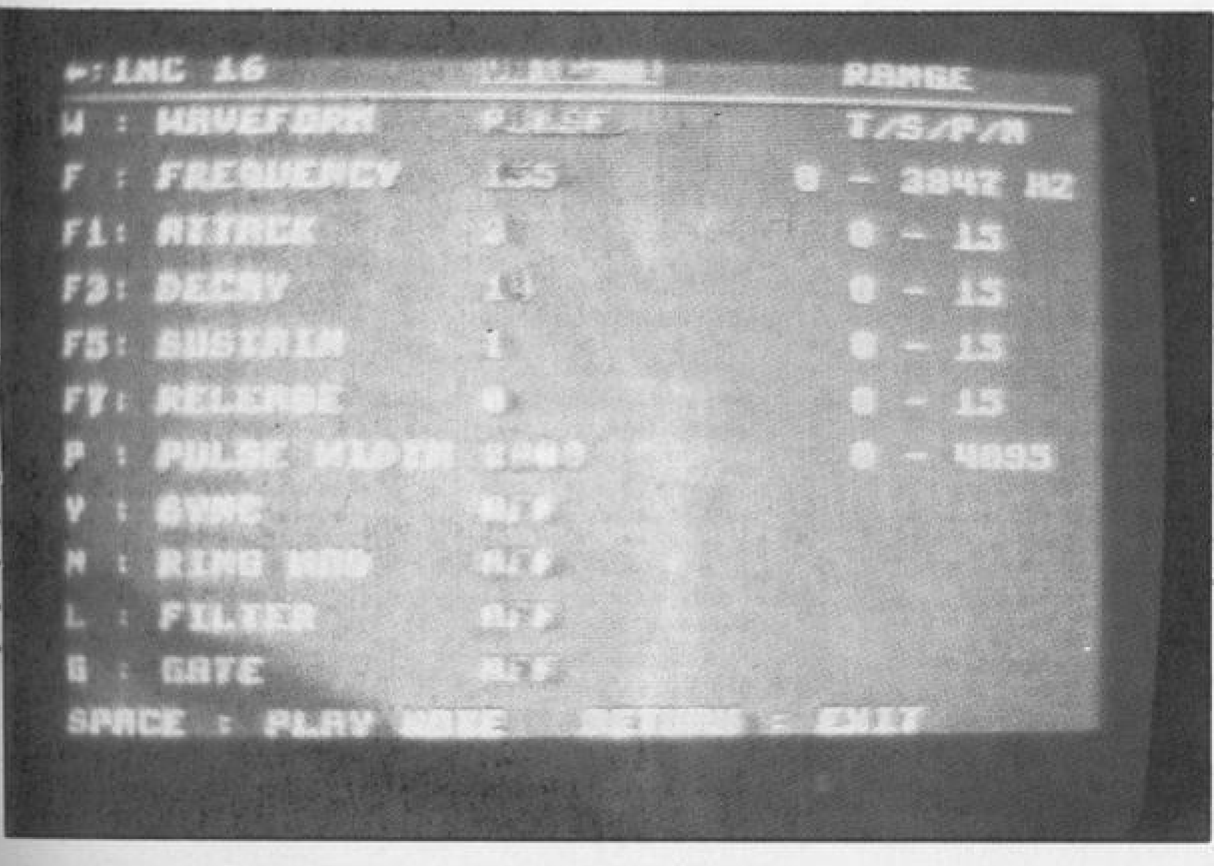
I get the impression that *Music Composer* is an unfinished symphony. At least the edges haven't been polished yet. One example of this is the keyboard-piano mode. Nowhere on the screen, or in the so-called manual, is there any indication as to which key is which. The manual claims that 'absolutely no musical ability or computer background is required to play this cartridge'. I suppose not, but that is like saying no computer background is required to use an Assembler. You may be able to use it, but will you be able to do anything with it?
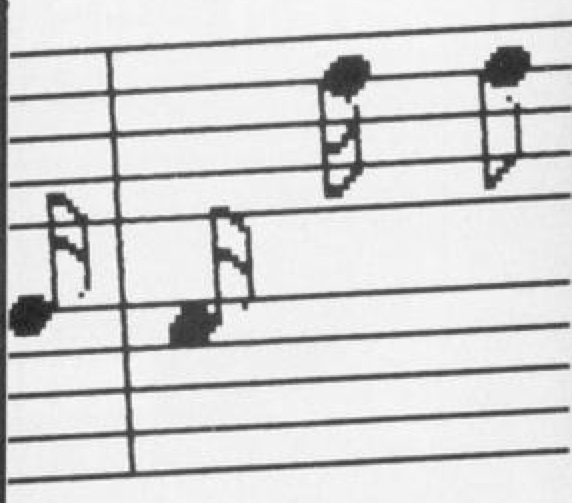
*'I'm sure it would be easier to learn machine code to make music than produce this package'*

## THE BITTEREST PILL

MUSIC MASTER from Supersoft comes on cassette with no fast-loader, so in the time it took to load, I made a cup of tea. And some toast. This program is 'the musical equivalent of a word-processor'. I think that a little modest; *Music Master* is quite convienient to use — most Commodore 64 work-processors aren't. I like *Music Master*. It has one absolutely brilliant feature that I haven't found on any of the other packages — it allows you to compose music which you can subsequently use from your own Basic programs. In short it is a musical programmer's utility. This alone makes it useful, though the £17.95 price tag is a bitter pill to swallow.

I didn't much care for the booklet, being pompous and impenetrable — the booklet, that is. Though there is a good section full of ideas for making strange sounds, and a trouble-shooting section. Although the review program came on cassette, it did allow me to save the fruits of my labour to disc, which is always a sign of some thought on behalf of the programmer. Though I did find that transferring sheet music to this system was not easy. This is because music has to be entered via the keyboard, but as though yo were playing a piano. Still on the whole *Music Master* is a good tool, and while it is a little expensive, there isn't anything






***Music Master's trouble-shooting screen.***

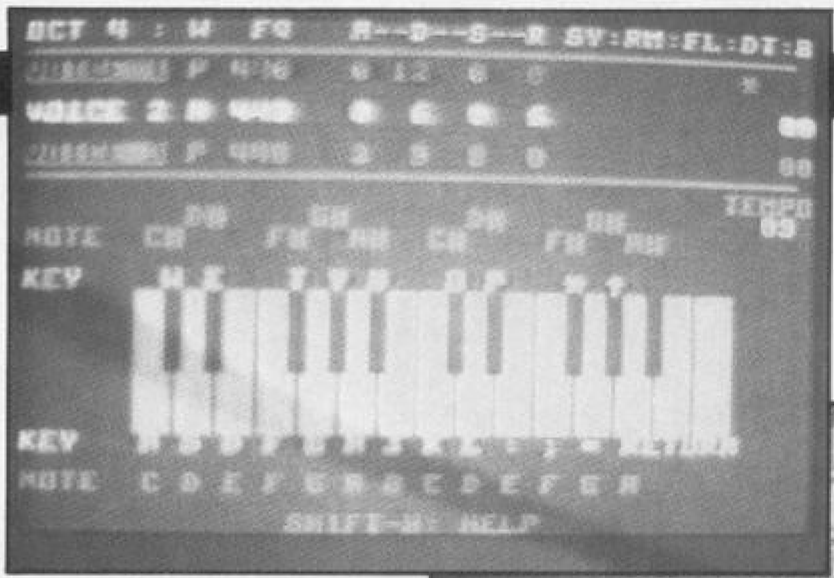
else around that will convert your musical meanderings to Basic.

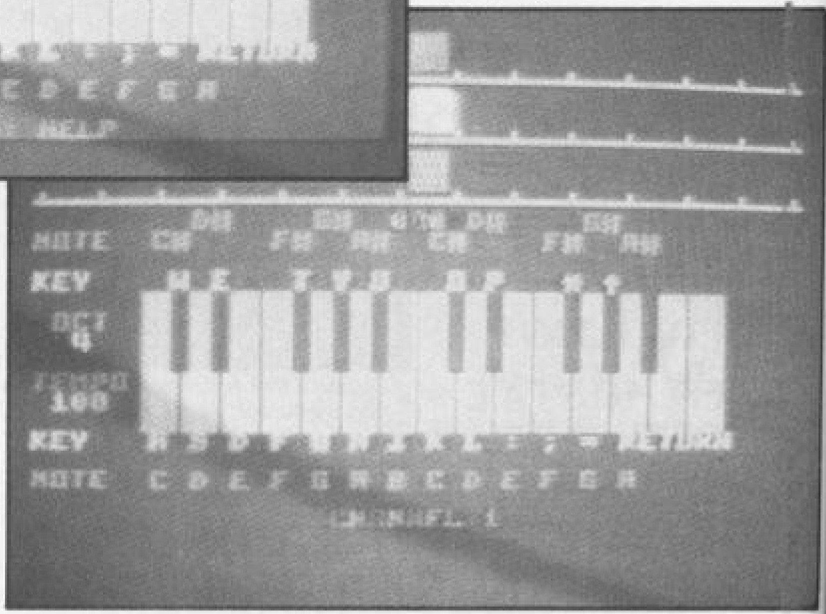
## A GOLDEN OLDIE

ROMIK'S MULTISOUND Synthesiser is a rework of a similar program that used to be available for the Vic 20. It resembles the other packages in that it has two main sections; a synthesiser style front panel, and a record/playback facility. I like the way the panel works, with sliders like a real old-fashioned synth — modern ones are all LEDs. In this way *Multisound* resembles the upmarket *Musicalc* package. When you play in piano mode, the piano keys appear on the screen, and a little dot bounces around indicating just which key you have hit. It reminds me of when a dot appears over the words of a song on the TV screen.

*Multisound* is not the most sophisticated music package. It doesn't seem to be capable of producing three-note chords for example, yet it does have a certain charm. I fell in love with the groovy drumbeats and on the whole am happy with the package though the manual could be a lot better.

And that's it — to date.




*Music Master has a keyboard icon which can be used in real-time to produce notes.*

# ...And More On SID Himself

By KIM ALDIS

IF YOU remember, last time round we jumped up and down on Sidney to make him belch and warble. This time we're going to stomp on him some more in an attempt to make him belch and warble politely.

So far controls for envelope, volume, waveform and pitch have been dealt with but there are a few other registers, plus bits of ones we've already looked at, for altering the character of the sound.

Having reached the stage where we can control the way a sound starts and the direction it takes on its way to the finish, we can look at techniques for changing the nature of the sound. Consider the difference between the notes made on a piano and those made on a violin. Even if you pick the same frequency (note) from each, they still sound different. The reason for this is largely to do with harmonics. Each waveform is made from several 'sub' waveforms which all total together to make a sound unique to that instrument.

Basically — not much of a pun considering the state of Big Comm BASIC — there are two ways of introducing a certain amount of harmonic overtone to Sidney. Apart from saying 'here is a certain amount of harmonic overtone', there's synchronisation and ring modulation.

Synchronisation is fairly straightforward. Just take two frequenceis and logically AND them together for your note. In Sidney's case you can take either of the first two voices and synch them with the frequency from voice three. The result goes through whichever voice you've selected. so, to take voice one as an example, shove a frequency into the frequency register of voice three (SID+14 and SID+15), whack another into frequency voice 1 (SID+0 and SID+1), set bit two of the control register voice 1 (SID+4) and start your sound as described in the previous part of this feature. (For details see prog 1.)

Ring modulation is slightly different. It takes the waveform of the selected voice and combines it in 'ring modulated' form with the waveform of voice 3. On the Commodore it only works with a triangular waveform on the selected voice. Again the method is quite simple: tet a triangular waveform into voice one (SID+4) and at the same time set bit 3 of SID+4 (i.e., put 16+4 into it) and set the sound off. The result can be quite strange, sort of two notes at the same time. Prog 2 gives some indication of how it's done.

The final and most versatile way of screwing around with Sid is filtering. This sounds like a dumb thing to do with sound but in fact it refers to the filtering of frequency. In other words in a given sound you can filter out all frequencies within a given range.

There are three types of filter in the Commodore. High pass — which allows only high frequencies through; low pass — which does likewise for low frequencies; and bandpass — which lets through a chunk somewhere in the middle.

The point at which the frequencies are cut off is controlled by register 22 and the bottom three bits of register 21, high pass meaning it passes everything above the cut-off point, low pass everything below and band pass allowing through everything within a range to either side of the cut-off.

Whether filtering is active or not is decided by the bottom three bits of register 23, one for each voice, and which filter is active by bits 5, 6 and 7 or register 24. Again the same kind of procedure is followed; enable filtering voice 1 by poking a 1 into register 23, pick a filter by setting the appropriate bit of register 24, not forgetting that this one has your volume in it. Now set your cut-off point in registers 21 and 22 and finally make a sound (see prog 3).

The best way of finding out about the kind of sounds you can make on the Commodore is by listening to them, which is where the final listing comes in. It gives a constant display of all the parameters as they're changed. Frequencies for voice one and three (FREQ1 and FREQ3) which are changed using the function keys f5, f7 and f6, f8. Filtering, synch and ring modulation are toggled on and off with keys F, S and R respectively. Waveform is changed with the W key, filter type is selected with H, L and B for high, low and band pass filters. Finally, the cut-off point for filtering is changed by f1. pressing any key plays a note.

Now get in there, crank up the volume, waken the neighbours and send the cat, screaming, down the stairs. With luck it will trip up the rent man and you'll never see him again.



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# IS A PICTURE WORTH A THOU

**Are Verbals just Burbles? Could Words Be For the Birds? Is Text Ex? Our Man with the ink-stained eyeballs takes up the cudgels for CHAR$ . . .**

KEATON THE DORKSLAYER was roused from his customary mid-morning slumber by the office Orc. 'Master! Master!' it cried, tugging frantically at his bootstraps, 'The adventure game is dead. Text-only has gone down the pan, and the rest will surely follow! Calamity! Calamity!'

Naturally Keaton was perplexed. After a short pause he retorted: 'Don't be stupid, Orc! Adventures are plentiful, and text games have never been more popular!' To emphasise the point he beat the foolish creature rapidly about the head with the office QL.

The diminutive green Orc appeared unconvinced. 'Go out and buy one then!' it challenged defiantly. 'Go out and buy a text adventure!' Keaton the Dorkslayer had little choice but to comply. The QL bounced into a corner. Some hours later KTC could be found carefully perusing the computer department of his local WH Smith mega-store. Much to his horror the Orc appeared to be ... correct! Surely,he thought, there must be a text adventure around here somewhere? But no! The only adventure progs he could find were *The Hulk* and *Avalon* (for the 48K Spectrum) and *Valhalla, Oracle's Cave* and *The Mystery of Munroe Manner* (for the CBM64). After wading through mountains of (largely ancient) arcadia he threw down his broadsword in disgust and stomped across to a bespectacled assistant. An exchange followed:

KTD (forcefully): 'I'm looking for a good text adventure!'

Assistant (somewhat taken aback): 'Text? Why do you want text?'

KTD (rather sweepingly): 'Because they're better, of course!'

Assistant (thoughtfully): 'Why don't you try *Sabre Wulf?* That's a good 'un!'

KTD tuts loudly and exits.

Chain store rivals Boots (the chemist) were marginally better stocked. A fair range of Melbourne House games littered the Spectrum and Commodore shelves, while the *Dan Diamond* trilogy awaited unsuspecting BBC owners. For Dragon fans there was the *Ring of Darkness.* After evaluating the goods he once again approached an assistant:

KTD (charmingly): 'Can you recommend a good text adventure for the Sprctrum, my man?'

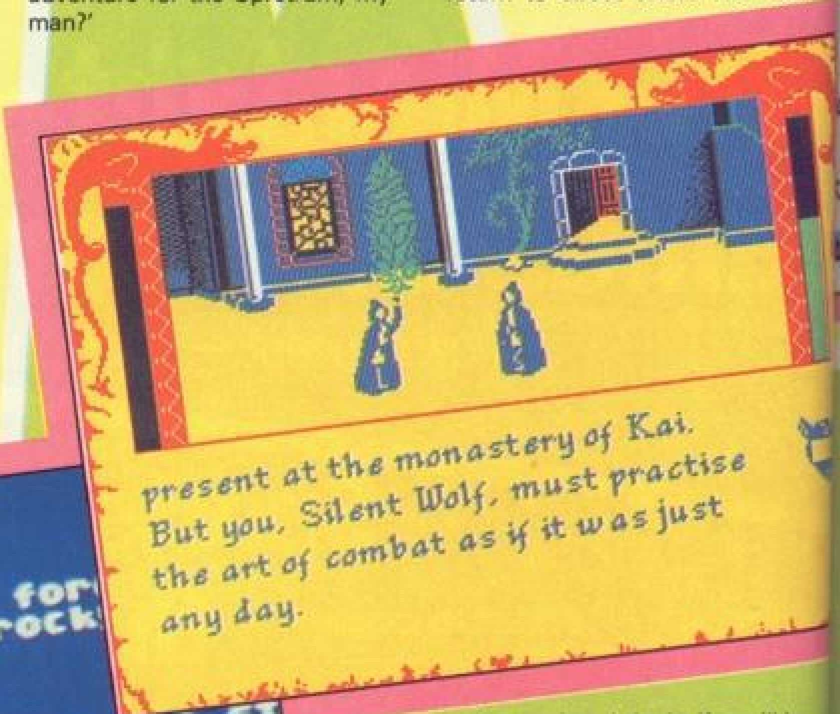
Assistant (helpfully): 'Certainly sir!'[Promptly produces a copy of the decidedly text-less *Avalon:*] 'This is very popular!'

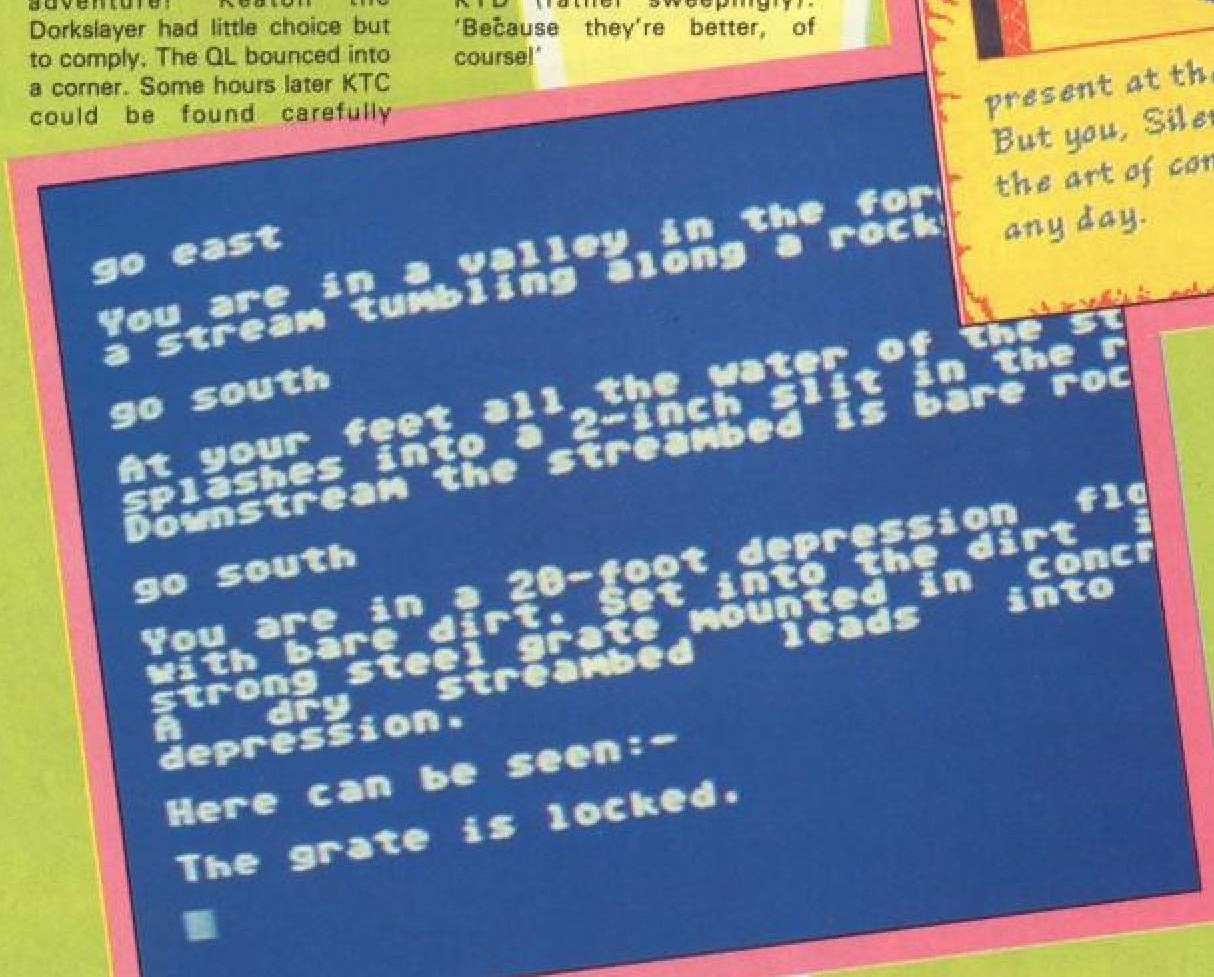
KTD: 'Buffoon....'

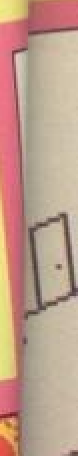
It took a specialist computer parlour finally to restore his faith. They offered to order whatever took his fancy. the situation, though, was clearly grim. He owed the Orc an apology.

Don Stevenson of Runesoft: 'It's becoming very difficult to sell text adventures, particularly through the big retail chains. I mean when they consider *Atic Atac* to be an adventure game, real adventures stand no chance. I think the market will eventually return to direct sales. The mail order market. I doubt if you'll be able to find any adventures in the big shops soon. You'll have to buy them through Adventure Clubs or through specialist magazines.'

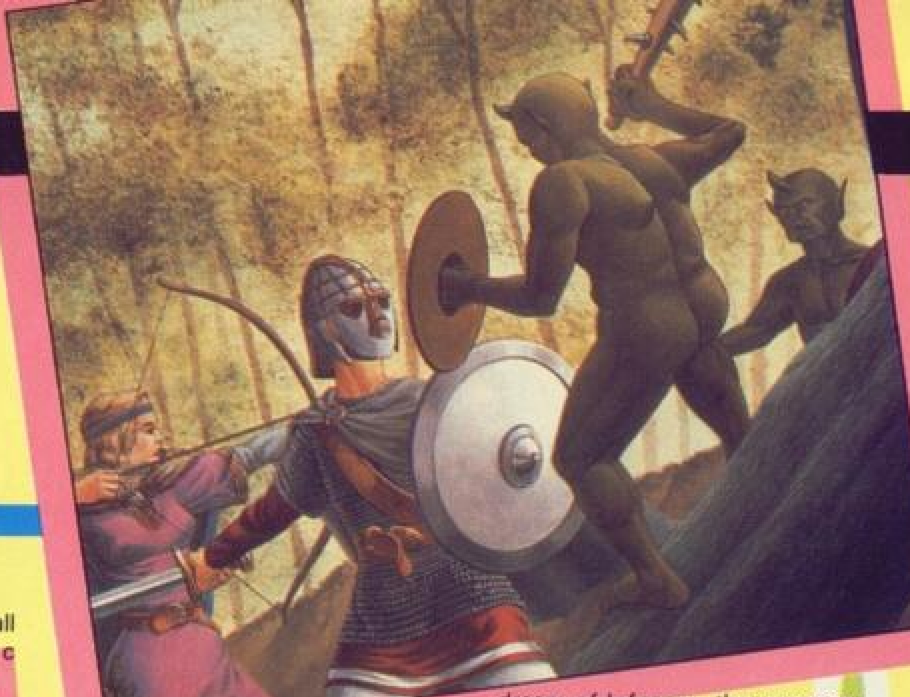
Howard Gilberts of Gilsoft agrees: 'Frankly I think the real adventure market is going to go mail order unless the distributors wake up. We've had problems getting our Gold collection properly distributed. W.H. Smith refused to touch them, simply because they're text! Only a few of the more knowledgeable distributors were interested. We've just produced *The Illustrator,* a graphics utility for our *Quill* system, but I would hope, in my heart of hearts, that it doesn't work to the detriment



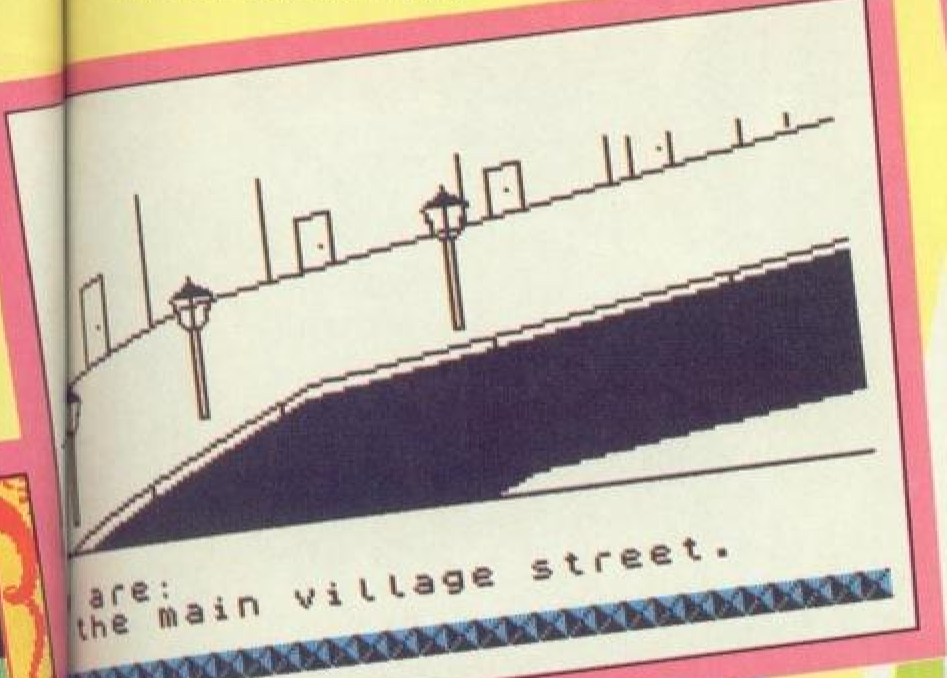



# USND WORDS?



of text-only games. I much prefer those, to be honest. The pictures you can produce in your mind can't be equalled by any




computer visuals, no matter what the quality. I think really we now have a split field now, with younger consumers going entirely for graphics.'

So, you may well ask, what's the big deal? Why's the Dorkslayer so steamed up? A fair question. To which there are several answers. It doesn't take a genius to work out that graphics cost memory. The more impressive the artwork the smaller the adventure. This means fewer puzzles, thinner descriptions and a diminished play area. Less stimulation in other words. In the long term they MAY lead to a stifling of development. Literate text adventures, with a semblance of intelligence and hyper-complex input routines (all quite possible) are unlikely to see the light of day if companies are unable to market them!

Melbourne House: 'With *Sherlock* we were faced with a very clear choice. We could either have made it exceptionally descriptive and even more sophisticated, or we could add graphics. We were advised that if we wanted to reach a mass market then we would have to include graphics. Apparently lots of people need them...'

Quicksilva: 'The subject is all very subjective. Graphic adventures are of more interest intially, they have more impact although they do tend to sacrifice ease of play for the visuals. We think a well written adventure like *Velnor's Lair stands up equally well against its* graphic equivalent, but it would certainly be more of an uphill struggle to sell it. Really text-only is very much a purist attitude. I think that the average consumer wants to see graphics. You just have to look at the sales figures.'

The attitude of W.H. Smith on the subject is clear: Graphics means progress. They told *Dorkslayer!*: 'The adventure market has become more sophisticated over the years and the type of text adventure that first appeared has been replaced by higher quality graphic adventures. The only text adventures we currently stock are for the BBC machine. And that's because it has such a small memory.'

It's an opinion to which Adventure International (founder: Scott Adams) are sympathetic. 'The introduction of graphics has dramatically widened the market,' they declared. 'Especially graphics of such exceptional quality as ours. We know a lot of real adventurers don't like them, but really the text-only adventure has gone. The multiples are only really interested in taking graphics. At the moment we're working on reducing the size of our databases with regard to putting graphics on the BBC. And we plan to introduce animated graphics to the Marvel comics *Questprobe* series eventually.'

Animated graphics? Animated adventures? We already have them. They're called arcade games! It seems that the future of adventure games (in the UK at least) is pretty much mapped out. I guess Dorkslayers can only glance in envy at the States and dream of Infocom, the company who have taken the text adventure into new areas of sophistication.

'We have absolutely no plans to introduce graphics into our adventures,' Spencer Steere of Infocom told us. 'Our philosophy is that a mental image is far more vivid than any computer graphic. We see our product as interactive fiction. There's no need for illustrations. The *Zork* trilogy never suffered from lack of graphics! If anything we believe the current trend in the US is towards more literate text adventures rather than any increase in graphics...'

Back in the office, both the Dorkslayer and the Orc wept quietly for the vanishing adventure..

## BEGINNERS START HERE

OK. So you've got your micro and you wanna check out these weird things called 'adventures'. Only the whole business is more than a tad confusing, right? Well puzzle no more friends, 'cos here's the Dorkslayer hit list, six quality progs guaranteed to enthrall and entertain all fledgling explorers. They're bright, accessible and mucho fun:

**CLASSIC ADVENTURE** from Melbourne House 6.95 (for the BBC B, 48K Spectrum and Commodore 64). Great version of the original adventure scenario, in which you battle dragons and bribe trolls. Occasionally tricky, but the problems have been well documented so you shouldn't stay stumped for long.

**AFRICA GARDENS** from Gilsoft 5.95 (for the Commodore 64 and 48K Spectrum). Old dark house mystery, full of creaking portals and wretched cobwebs, not to be played alone as it positively drips atmosphere. Splendidly spooky.

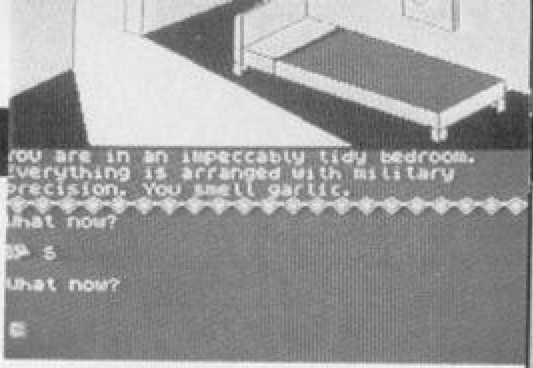
**VELNOR'S LAIR** from Quicksilva 6.95 (for the Oric Atmos and 48K Spectrum). Cult sword and sorcery romp that's both mildly devious and deliciously addictive. Hunt down the evil wizard Velnor. Befriend the dwarves. Puzzle over the crocodiles. Neat.

**ADVENTURELAND** from Adventure International 9.95 (for the Atari) range, Commodore 64 and 48K Spectrum). The first of the legendary Scott Adams series, considerably easier than most although still tough(ish). Also interesting from an historic point of view. A good title to drop at parties.

**SPOOF** from Runesoft 5.50 (for the 48K Spectrum and Commodore 64). Hilarious lampoon of the standard adventure quest, full of witty repartee and totally daft situations. Don't kill the Dragon though! It's not that kinda game.

CONTINUED FROM P.57

# DORKSLAYER!




"Valkyrie 17 is up and running." — "Do what?"

## LOOK WEST, YOUNG MAN

Know, O prince, that when the land was grey with pagan ways and cursed with pungent sanitation there evolved a race of wily manthings who became known as the Sidhe. It was they, who with monstrous wit (and the holy Seal of Calum) captured the Great Enemy, the Master Worm, and cast him into a grim and icy abyss, thus bringing about the dawn of a bright new age (credit where credit's due). The Master Worm was naturally piqued at this development and vowed to destroy the Seal of Calum and stomp the godly Sidhe into the ground! As is the way of legend the Worm wasn't just whistling Dixie. There followed a terrible battle that climaxed with evil walking the Earth once more and both Sidhe and Seal being cast down into the underworld of Tir Nan Nog. Know also, O prince, that somewhile later the great Celtic hero, Cuchulainn (also known as Sedanta, Culan's hound or just plain Cucu) travelled to Tir Na Nog (via the keyboard) in search of the shattered Seal. His quest being to bring together the fragments and reunite them, thereby lightening the burdens of the world and ensuring his own everlasting glory (which seems a fair enough reason to me).

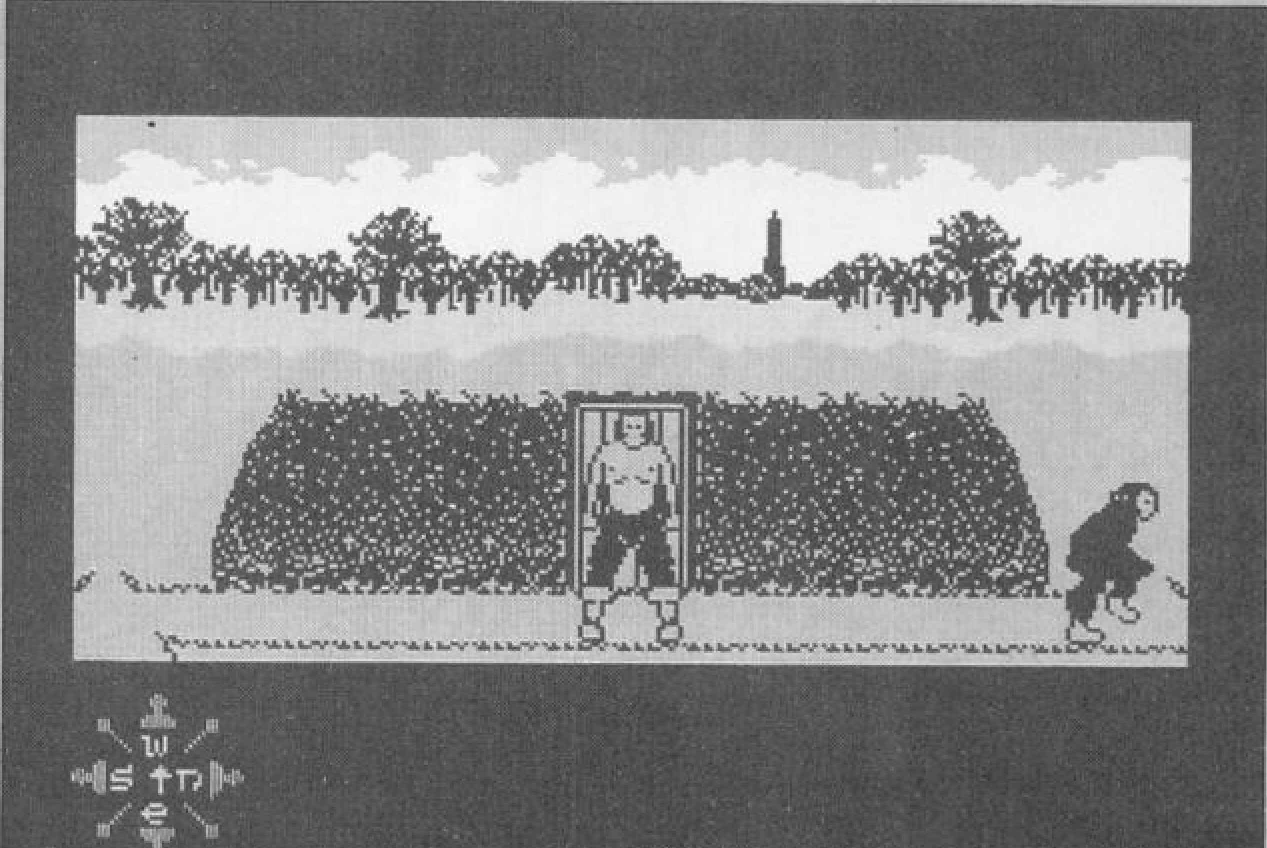
Thus begins this unquestionably impressive new episode in the controversial annals of the animated adventure. Combining both full-scale animation and mammoth play area with a (recognisable) random/vaguely intelligent cast, Gargoyle Games' *Tir Na Nog* actually delivers everything that *Valhalla* promised. I mean, you don't have to peer painfully at a load of undistinguishable black blots here. The central character of Cucu stands a full 56 pixels tall and comes complete with grimace and matted hair! The screen display offers you four different camera angles allowing full examination of the land of Nog — as well as displaying both a compass and inventory list. The animation of all the characters is quite superb. Cucu shambles about with a realistically smooth gait, hair blowing dramatically in the wind and Nog's drooling denizens are a delight to behold. However, don't expect to complete it in a week. My version was only a pre-production model, smaller in size and less baffling than the final program, with prize items (keys for locked doors and fragments of the Seal) readily available yet even in this simplified form, it presented a number of headaches. how to avoid the shambling Sidhe (now reduced to simian appearance following the loss of the Seal) for example? 'Twas enough make a grown man weep. Needless to say I'm hooked. A full blown Cuchulainn should be shambling past your way soon. Don't fail to check him out. —**S.K.**

Valkyrie '17 From Ram-Jam Corporation. For Commodore 64 (£9.99) and Spectrum 48K (£9.99).

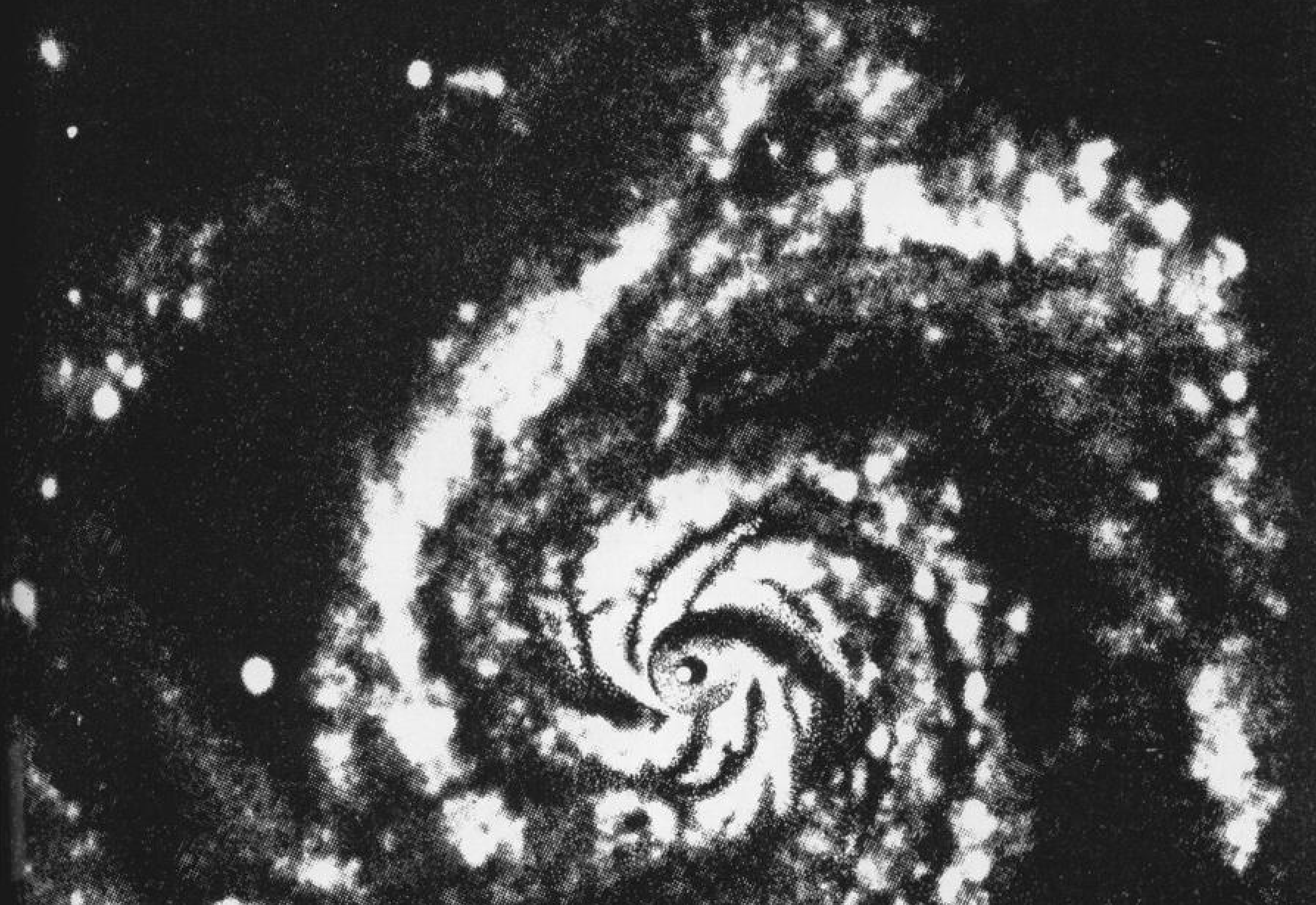
Nifty first offering from Ram-Jam. A 'Fairly Secret Army' adventure that's not only devious but cloaked in a quite ludicrous sense of humour. Apparently Valkyrie 17, the Nazi's ultimate weapon has been reactivated! Information has been leaked into your ansaphone (the messages are on the back-side of the tape) and air tickets to Munich have been stuffed down your jockey shorts. Not surprisingly things begin move at a sprightly pace.

On my first mission, having transferred to the Hotel Glitz (y'know the one, it overlooks lake Bruntz), I found myself clad in black silk dress and blonde wig (just mind your own business, OK?), propositioned at the bar, molested by the hotel manager and endangered on a window ledge. Not a bad morning's work, I'm sure you'll agree.

Rather cleverly Ram-Jam have sated the market's irrational demand for graphics by alternating visuals with some highly detailed text (both of which appear in a window at the top of the screen), and there's a handy 'Save to Microdrive' option, which is a more than welcome innovation. Indeed, in many ways it's hard to fault this debut from Ram-Jam. Dorkslayers on the run from Orcs are unlikely to find a more entertaining adventure alternative. The Red Kipper flies at midnight, they tell me. Best catch this while you can.



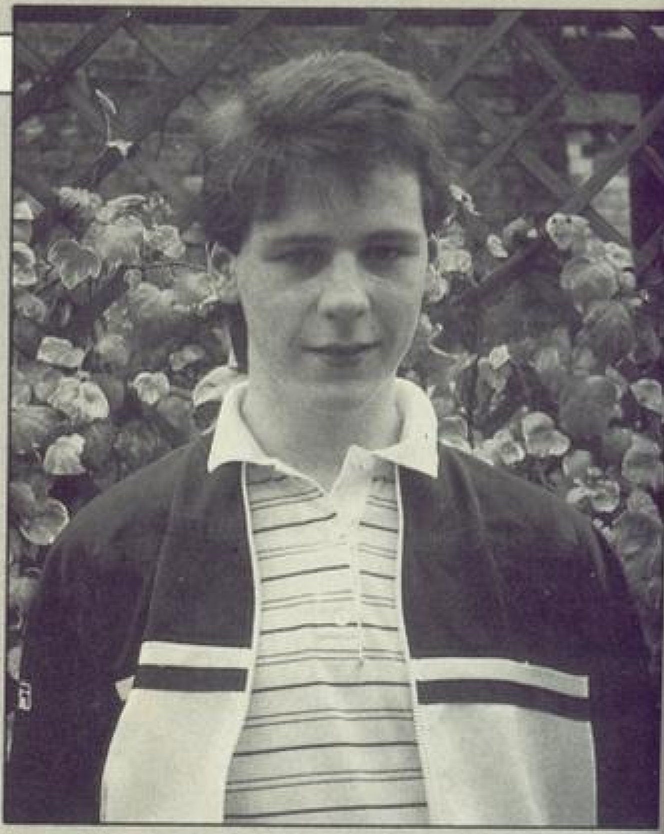
Tir Na Nog — delivers everything *Valhalla* promised.
(From Gargoyle Games for Spectrum 48K £9.95).



# RACE

MOVI SOFT 2

# Don't Step On My G·u·c·c·i S·h·o·e·s



**NICKY XIKLUNA talks to RICHARD CLARKE, Bubble Bus's rising star.**

RICHARD CLARKE is just the kind of person needed to dispel the myth that a programmer is a kind of amorphous, whirling pillar of dandruff and spectacles encased in a shiny nylon anorak, which causes a constant crackle of static as he walks.

Richard sports a Lacoste shirt in a stripe, neat and narrow in red, blue and white. His similarly expensive italian Fila jacket is carefully chosen to carry on the exact stripe and colour in concentric circles around his body.

Richard (alias 'Mini'), left school this year to become a full-time Bubble Bus programmer. He is seventeen (only just) and has two Commodore titles under his (probably Gucci) belt — *Bumping Buggies* and *Cave Fighter*. His games have been translated into German and Dutch. The working title of his current game is *Speedboat Racer*. Bubble Bus hope to have egged him on enough to have it on the market later this month.

*Bumping Buggies* are sort of racing bumper cars. Instead of crashing, you shove other cars off the track. Or jump over them along with other obstacles. (There's a nice 3D effect here — your jumping car appears to lurch out of the screen at you as you look on from above). *Cave Fighter* is a *Manic Miner*-style game with 31 levels and 16 monsters. The sundry pitfalls multiply as you progress, as do the precarious ledges. At about the nineteenth screen these become so small that it's like trying to balance on stilts in size twelve boots. Richard's graphics and action — like his clothes — are neat and smooth. And you can shoot to kill in all directions. But what about the one that's bubbling under?

'It's a *Pole Position*-style game. You have to compete with other boats around a course of rocks, flags and various signs in order to qualify. I'm enjoying writing it.'

How did he begin?

'About three years ago the games on the market were so terrible and boring that they prompted you to write your own. I wanted to learn at school. But we spent more time in the classroom than on the computers. I knew more than my teachers did. Straight up! We did an awful lot on punch cards. No programming. More like history lessons really.'

And the first published prog?

'I saw a new shop in Tonbridge and went in. It was Bubble Bus. They were a friendly lot and showed me around anyway. Later they bought *Bumping Buggies*.'

Will he be branching out from the Commodore to write for any of the new machines? 'I'm disappointed with the newcomers. I think that new should mean better. Nothing yet has surpassed the Commodore's sprites and sound. However, I think that MSX is a passable games machine, and I'll probably write for that. But then, it's really the same video chip as the Texas, with slightly improved sound.'

So what's his dream rig, then?

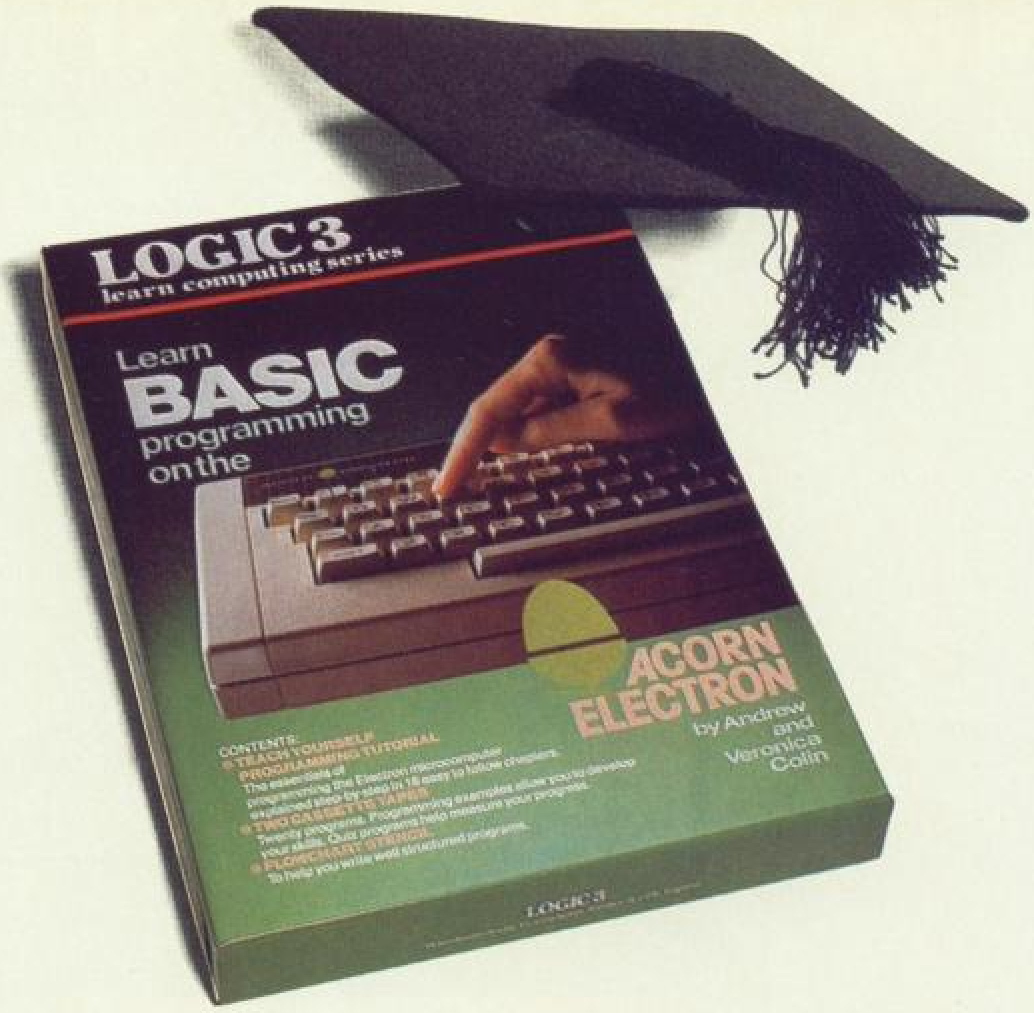
'Um...an Apple IIE with two disc drives and...everything else. Especially a modem. And all American software.'

Fancy a bit of hacking then?

'Oh yeah. I'd like to break into a missile defence base. Not for sabotage reasons, but because it's the most difficult. I fancy the sheer challenge.'








# How to teach your Micro a thing or two

Thousands of home computer owners have yet to discover their microcomputer's potential to help with many of the problems and decisions that come up every day in the home or office.

Perhaps you have always promised yourself that you would teach yourself programming, but have been put off by manuals which seem to assume a lifetime spent studying computer science and mathematics. Maybe you have looked at other computer books, but have yet to find one which is free of unnecessary jargon or where the program examples bear some relevance to real life and not space invaders.

Relax, your search is over.

The 'Learn BASIC' tutorials from Logic 3 are the latest development of a teaching method pioneered by Professor Andrew Colin and perfected by testing on 3 generations of students at Strathclyde University. The 'Strathclyde Method' has been translated into 8 languages and used by over 300,000 microcomputer users.

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# BECOME A LONE WOLF AND WIN A QL

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## How to Enter

Here are eight screen shots from the game *Lone Wolf: Flight from the Dark* but they are not in any special order. That's your job! So as not to betray too much of the real storyline we have concocted a short tale about Lone Wolf to help you place the pictures in sequence.

Read the passage carefully and, when you think you can put the pictures in order, get a postcard (or you can use the back of a sealed down empty envelope) and put the numbers 1-8 down one side. Write the key letter (for example, 'C') of the picture you think is first next to '1' and so on until all pictures have been placed in the order to fit the story.

Cut out the special entry token from this page and stick it to your entry. Don't forget to put your name, age and address on as well. Finally, we want you to write down a battle cry suitable for Lone Wolf, a novice monk trained in the martial arts and magic, on a mission of revenge. It can be anything you like but must be no more than 12 words.

Post your completed entry to: BIG K LONE WOLF COMPETITION, LAVINGTON HOUSE, LAVINGTON STREET, LONDON SE99 to arrive by Thursday 31st January, 1985.

***The Task of Lone Wolf:***
***You are Lone Wolf. The day starts with your regular morning tutorial in the Monastery grounds. However, this is no normal morning for today is the day of your quest. Leaving the mountains behind, you are attacked but with one blow of your trusty weapon the foe is slain. Seeking guidance from a mysterious figure you are directed via a castle to the town which you enter as the day draws to a close. The following morning, refreshed, you encounter a vicious beast which has to be repelled with a stab of your blade. It is going to be a long quest.***

## *RULES*

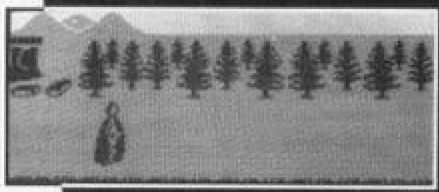
Each entry must be on a postcard or back of a sealed down envelope and must bear the entrant's own name, age and address and a special entry token cut from this page.

All entries received by the closing date will be examined and the First Prize awarded to the sender of the correct entry submitting the most apt, original and best-expressed tie-breaker, with age being considered. All prizes must be accepted as offered; there can be no alternative awards, cash or otherwise. If the First Prizewinner is aged under 18 years then parental consent must be obtained before the prize can be awarded. Remaining prizes will be awarded for the next best entries in order of merit. No entrant may win more than one award.

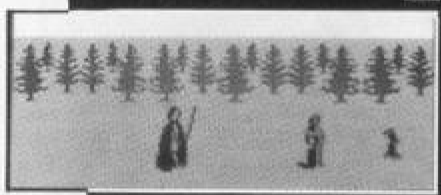
This competition is open to all readers in Great Britain, Northern Ireland, Eire, Channel Isles and Isle of Man, other than employees (and their families) of IPC Magazines Ltd., Hutchinson Computer Publishing Company Limited and the printers of BIG K.

Any entry received after the closing date will be disqualified as will those received incomplete, mutilated, illegible or not complying with the rules and instructions exactly. The judges' decision is final and legally binding and no correspondence will be entered into. All winners will be notified and the result published later in BIG K.

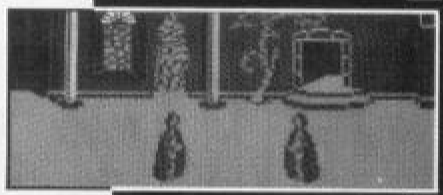
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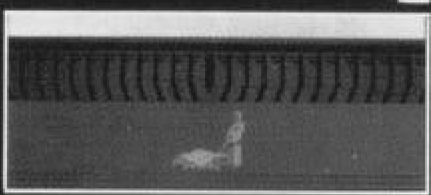

A


E

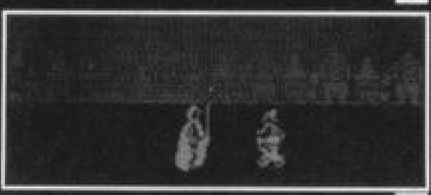

B


J


C


K


D


L

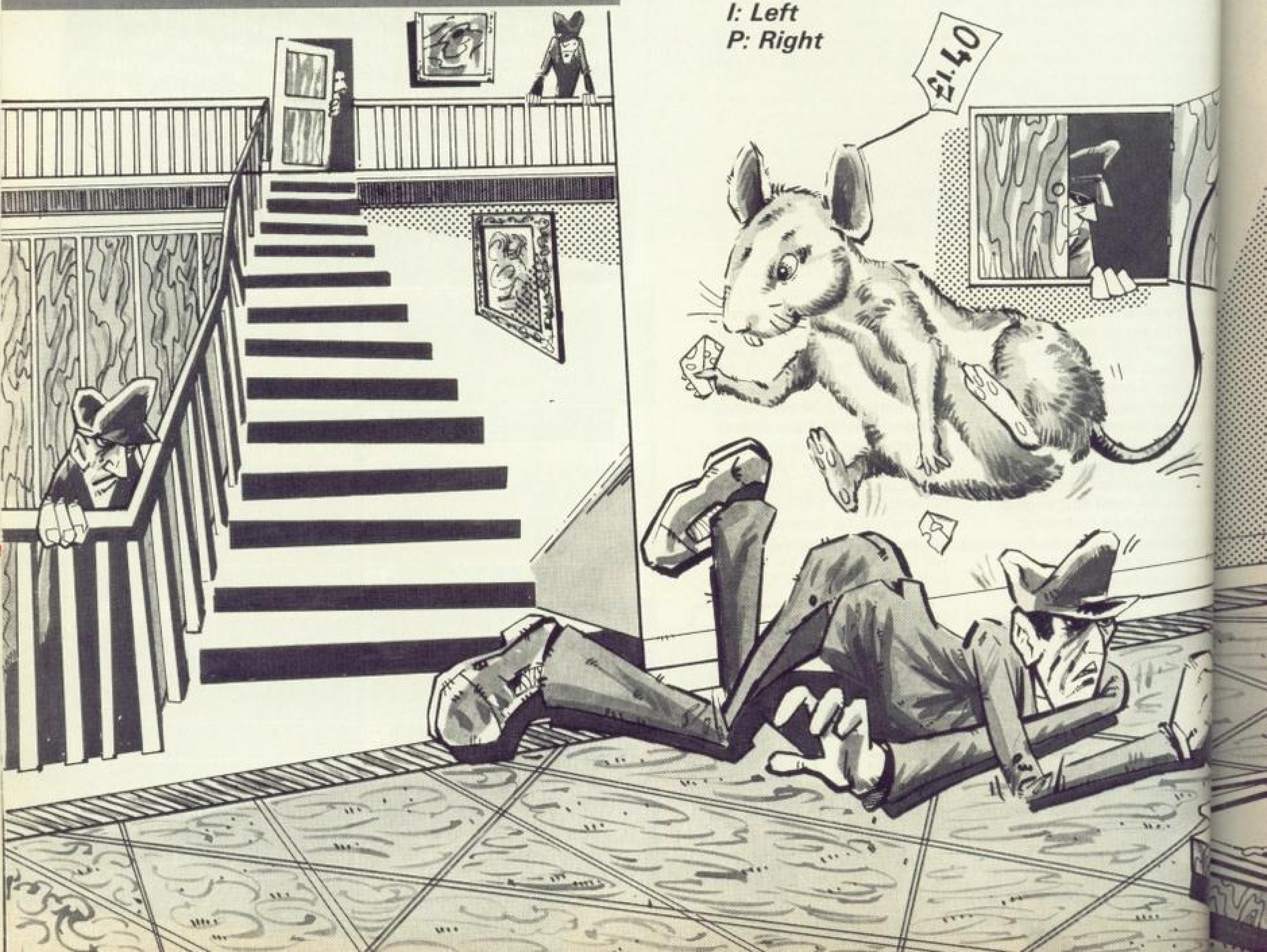
# House Mouse

*FOR Amstrad CPC 464*
*from J. Gilbert*

There's no rest for a rodent these days. When all you want to do is get back to your nice snug hole, and curl up with a copy of Mouse and Garden, you find yourself dodging ruthless security guards. I mean, what did you ever do to deserve it. A few bits of mouldy cheese, no-one missed them, but all of a sudden there's a price on your head. Still at least you've got a very good friend on the top floor, just waiting to open your front door for you...

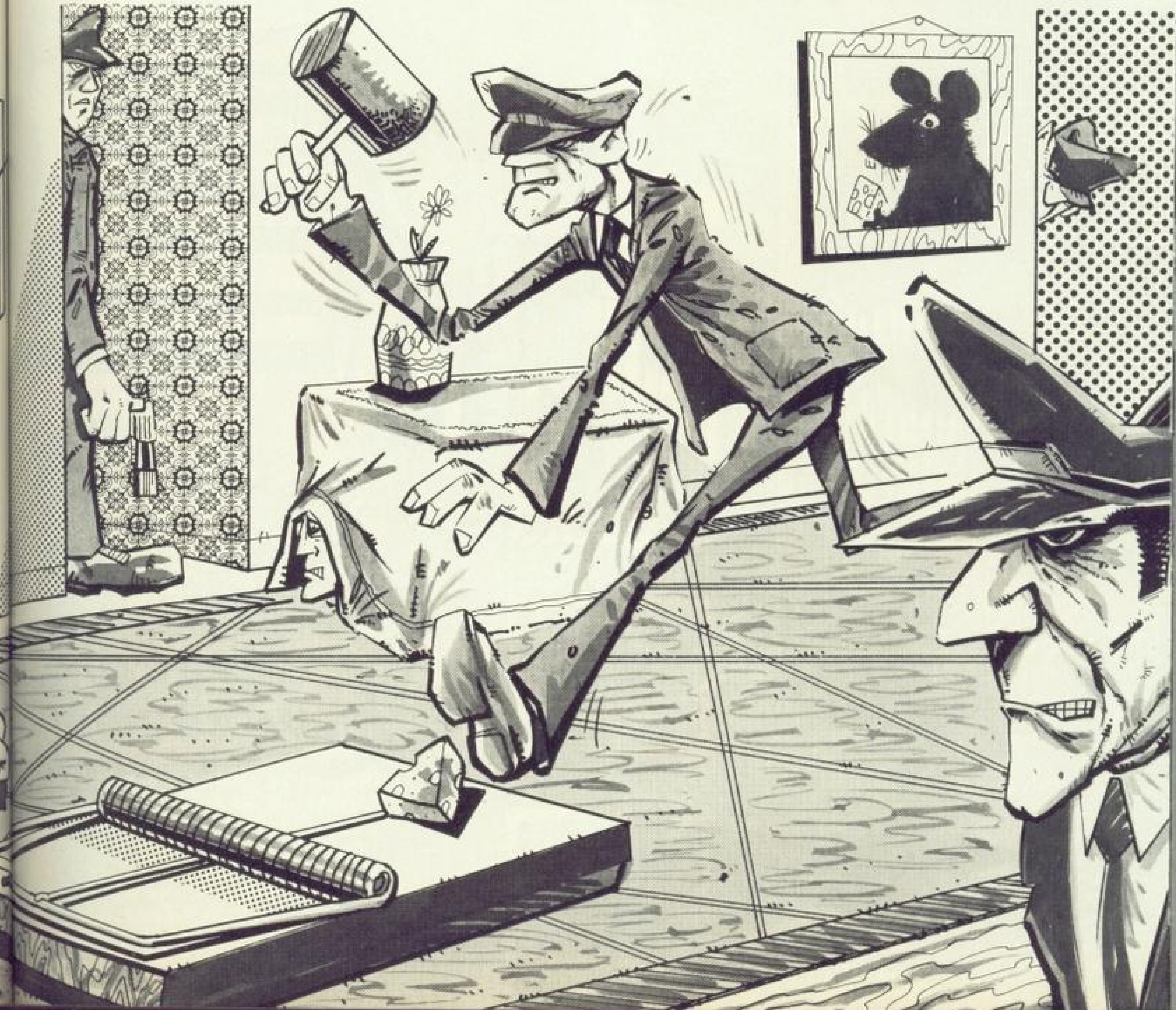
```
10 ket=0: LET lev=0:tim=100:MODE 1
20 LET S=1:GOTO 170
30 CLS:RESTORE: FOR f=1 TO 39
40 LOCATE f,3:PRINT CHR$(233)
50 LOCATE f,8:PRINT CHR$(233)
60 LOCATE f,12:PRINT CHR$(233)
70 LOCATE f,15:PRINT CHR$(233)
80 LOCATE f,20:PRINT CHR$(233)
90 LOCATE f,25:PRINT CHR$(233)
100.NEXT f
110 LOCATE 16,7:PRINT CHR$(198):LOCATE 1
5,6:PRINT CHR$(199):LOCATE 16,5:PRINT CH
R$(196):LOCATE 17,6:PRINT CHR$(197)
120 LOCATE 39,7:PRINT CHR$(225)
130 FOR f=8 TO 11:LOCATE 20,f:PRINT CHR$
(220):NEXT f
140 FOR f=12 TO 14:LOCATE 2,f:PRINT CHR$
(220):NEXT f
150 FOR f=15 TO 19:LOCATE 30,f:PRINT CHR
$(220):NEXT f
160 FOR f=20 TO 24:LOCATE 10,f:PRINT CHR
$(220):NEXT f
170 SYMBOL AFTER 189
180 FOR f=200 TO 211
190 READ a,b,c,d,e,l,9,h
200 SYMBOL f,a,b,c,d,e,l,9,h
210 NEXT f
220 DATA 0,0,0,0,0,0,0,0,2,1,0,0,0,0,0,3
,0,0,0,0,0,112,112,32,120,164,36,96,80,2
08,156,132
230 DATA 0,0,0,0,1,1,0,0,0,0,3,0,0,0,0,3
,0,0,0,0,192,192,128,192,224,208,224,192
,192,192,192,192
240 DATA 0,0,0,0,0,28,92,72,62,9,9,56,68
,66,193,7,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,
0
250 SYMBOL 220,195,255,195,255,195,255,1
```

***Controls:***
***Q: Up***
***A: Down***
***I: Left***
***P: Right***



```
95,255
260 IF S=1 THEN GOTO 610
270 LET mox=2:LET mouy=24
280 LET a$=CHR$(200)+CHR$(202)+CHR$(201)
+CHR$(203)
290 LET b$=CHR$(204)+CHR$(206)+CHR$(205)
+CHR$(207)
300 LET c$=CHR$(208)+CHR$(210)+CHR$(209)
+CHR$(211)
310 FOR a=37 TO 1 STEP-1
320 LOCATE 1,1:PRINT "TIME:"tim
330 IF lev=1 THEN GOSUB 910
340 IF INKEY$="i" AND mox>1 THEN LET mox
=mox-1
350 FOR f=0 TO 2
360 IF INKEY$="p" AND mox<38 THEN LET mo
x=mox+1
370 IF mouy=7 THEN GOSUB 1000
380 IF INKEY$="i" AND mox>1 THEN LET mox
=mox-1
390 FOR g= 1 TO 3:IF INKEY$="q" THEN GOS
UB 810:NEXT g
400 IF lev=1 THEN GOSUB 910
410 FOR g=1 TO 3:IF INKEY$="a" THEN GOSU
B 860:NEXT g
420 IF f=0 THEN LET q$=a$
430 IF f=1 THEN LET q$=b$
440 IF f=2 THEN LET q$=c$
450 LOCATE a,10:PRINT LEFT$(q$,2):LOCATE
 a,11:PRINT RIGHT$(q$,2)
460 LOCATE a,18:PRINT LEFT$(q$,2):LOCATE
 a,19:PRINT RIGHT$(q$,2)
470 IF lev=1 THEN GOSUB 910
480 LOCATE mox,mouy:PRINT " ";CHR$(224);
" "
490 IF a=29 THEN LOCATE 30,19:PRINT CHR$
(220):LOCATE 30,18:PRINT CHR$(220)
500 IF a=19 THEN LOCATE 20,11:PRINT CHR$
(220):LOCATE 20,10:PRINT CHR$(220)
510 IF mox=10 AND mouy=24 THEN LOCATE mo
x,mouy:PRINT CHR$(220)
520 IF mox=8 AND mouy=24 THEN LOCATE mox
+2,mouy:PRINT CHR$(220)
530 IF RND>0.7 THEN LET tim=tim-1:IF tim
=0 THEN GOTO 940
540 NEXT f
550 NEXT a
560 LOCATE 1,10:PRINT " "
570 LOCATE 1,18:PRINT " "
580 LOCATE 1,11:PRINT " "
590 LOCATE 1,19:PRINT " "
600 GOTO 310
610 BORDER 15:INK 0,10
620 PRINT "  00  00 000000 00  00 000000
 000000      00  00 000000 00  00 00
 00          000000 00  00 00  00 000000
 00000       000000 00  00 00  00     00
 00          00  00 000000 000000 000000
 000000      00  00 000000 000000 000000
 000000"
630 PRINT
640 PRINT "                      MOUSE"
650 PRINT:PRINT "                   BY JASON GI
LBERT"
660 PRINT "*****************************
***********"
670 FOR g=12 TO 22:LOCATE 1,g:PRINT "*":
LOCATE 40,g:PRINT "*":NEXT g
680 LOCATE 1,23:PRINT "*****************
***********************
690 LOCATE 15,12:PRINT "INSTRUCTIONS"
700 PRINT "*You are a mouse who must rea
ch his    **hole on the top floor of an
old house.**WATCH OUT FOR THESE CREATURE
S: "
```

CONTINUED OVER PAGE

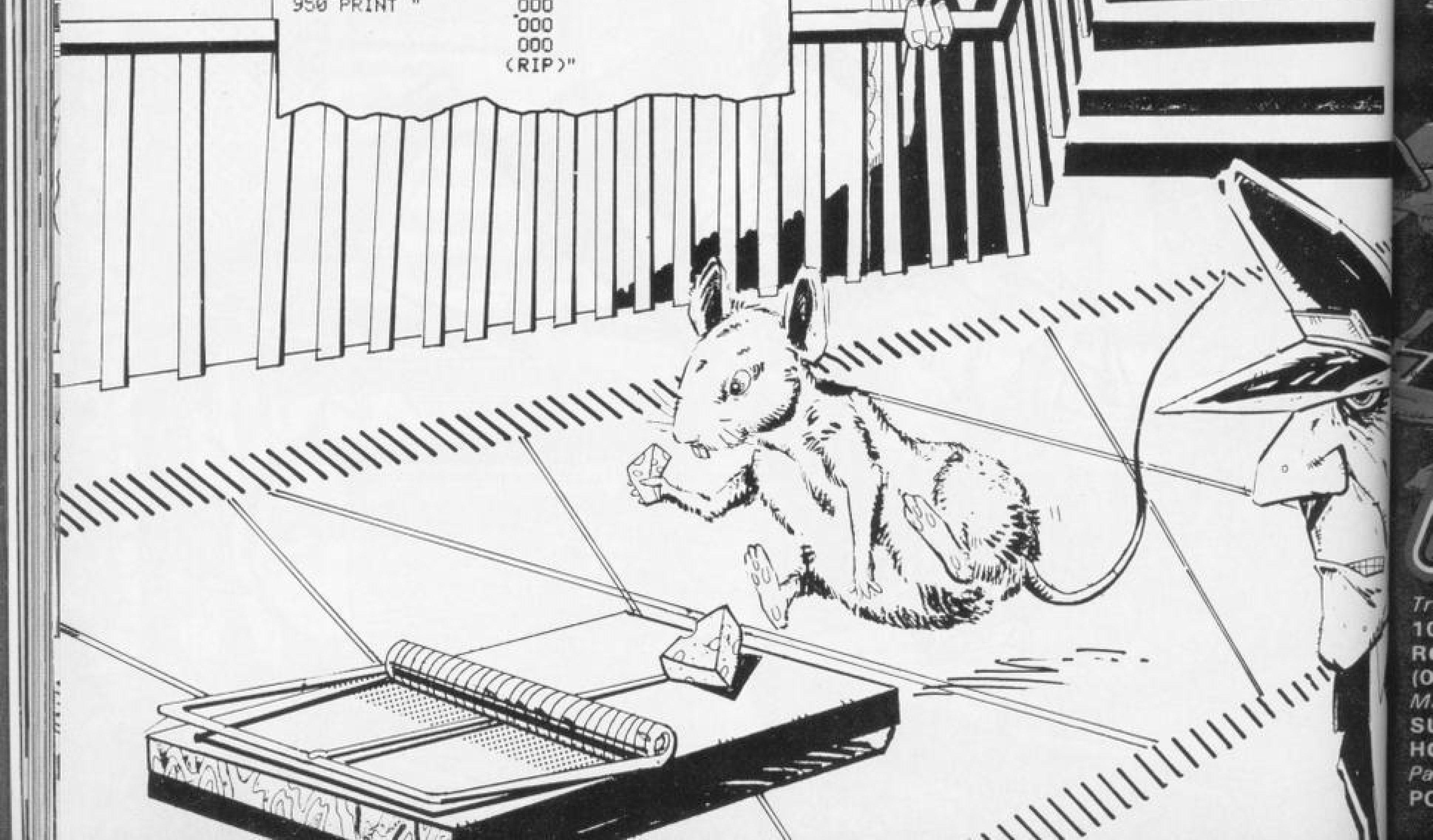


*CONTINUED FROM P.69*

# House Mouse

```
710 PRINT "* ";CHR$(208)
720 PRINT "* ";CHR$(209);" THE SECURITY
GUARDS"
730 PRINT "*"
740 PRINT "* ";CHR$(225);" 2nd MOUSE.ONL
Y HE CAN OPEN THE HOLE"
750 PRINT"*"
760 PRINT "*KEYS:Q=UP:A=DOWN:I=LEFT:P=RI
GHT"
770 PRINT "*              GOOD LUCK!!"
780 LOCATE 14,25:PRINT "PRESS ANY KEY!"
790 IF INKEY$=""THEN GOTO 790
800 LET S=2:GOTO 30
810 IF mouy=24 AND mox=9 THEN LOCATE mox
+1,mouy:PRINT CHR$(220): LET mouy=mouy-5
:LET lev=1
820 IF mouy=11 AND mox=19 THEN LOCATE mo
x+1,mouy:PRINT CHR$(220):LET mouy=mouy-4
:LET lev=0
830 IF mouy=19 AND mox=29 THEN LOCATE mo
x+1,mouy:PRINT CHR$(220): LET mouy=mouy-
5:LET lev=0
840 IF mouy=14 AND mox=1 THEN LOCATE mox
+1,mouy:PRINT CHR$(220):LET mouy=mouy-3:
LET lev=1
850 RETURN
860 IF mouy=19 AND mox=9 THEN LOCATE mox
+1,mouy:PRINT " ":LET mouy=mouy+5:LET le
v=0
870 IF mouy=14 AND mox=29 THEN LOCATE mo
x+1,mouy:PRINT " ":LET mouy=mouy+5:LET l
ev=0
880 IF mouy=11 AND mox=1 THEN LOCATE mox
+1,mouy:PRINT " ":LET mouy=mouy+3:LET le
v=0
890 IF mouy=7 AND moux=19 THEN LOCATE 30
,1:PRINT "            ":LET lev=1:LOCATE mo
x,mouy:PRINT " ":LET mouy=mouy+3
900 RETURN
910 IF mox+1=a THEN GOTO 940
920 IF a=mox+1 THEN GOTO 940
930 RETURN
940 CLS:MODE 0:PRINT "          000
                     000
                 00000000000
                 00000000000
                     000
                     000

            "
950 PRINT "          000
                     000
                     000
                    (RIP)"
960 LOCATE 8,23:PRINT "PRESS A KEY TO PL
AY AGAIN"
970 IF INKEY$="" THEN GOTO 970
980 IF INKEY$="" THEN GOTO 980
990 RESTORE:GOTO 10
1000 IF mox<17 THEN GOSUB 1050
1010 IF mox=38 AND ket=0 THEN LET ket=1:
LOCATE 38,7:PRINT CHR$(228):LET mox=mox-
2:LOCATE 10,2:PRINT "YOU HAVE THE 2nd MO
USE"
1020 IF mox<37 THEN LOCATE mox,mouy:PRIN
T "      "
1030 LOCATE 30,1:PRINT "NEAR HOME"
1040 RETURN
1050 IF ket<>1 THEN RETURN
1060 CLS:BORDER 0,26
1070 FOR f=1 TO 20
1080 PRINT  " WELL DONE      WELL DONE
  WELL DONE"
1090 NEXT f
1100 LOCATE 3,23:PRINT "PRESS ANY KEY FO
R ANOTHER GAME"
1110 a$=INKEY$
1120 INPUT a$
1130 RUN
```




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Commodore 64 £7.95

# Warning: these ga



# ames show no mercy.

Acornsoft have now unleashed eight more merciless games onto unsuspecting BBC micro owners.

Ranging from 'Gateway to Karos', where putting a foot wrong could mean instant death. To the relentless antics of Drogna which could have you dying with laughter.

## Gateway to Karos.

An adventure game in which you'll need all your patience and ingenuity just to stay alive. Your objective is to find the Talisman of Khoronz but, whichever path you choose, you'll be beset by treachery. Serpents lie in wait and magical phenomenona are in abundance. Should you find the Talisman, you've still to find your way back.

## Labyrinth

A superb real-time game with fast 3D graphics. As you guide Mork through the Labyrinth, he'll have to eat fruit to keep going. Crush the Tiger-Moths, shoot the Flitterbugs, dodge the Threshers and find the Magic Crystals which lead to new and more challenging levels of the Labyrinth.

## Tetrapod.

You're in an arena littered with dormant lizards, killer bees and other hostile creatures with whom you'll have to do battle to survive. But beware of your own laser bullets, as they bounce off the arena walls.

## Drogna.

A game for two people – preferably with devious minds. There are two vaults containing diamonds and your job is to collect and transfer them to your home base. While your opponent is out collecting you could sneak in and steal his loot . . . but keep an eye out for him doing the same to you.

## Crazy Tracer.

An arcade style game where you're in charge of a paint roller. Guide your roller around a maze of rectangles while evading monsters who are committed to destroying it. Gain extra rollers and bonus points by painting different objects. But you'll have to avoid running out of paint.

## Volcano.

Mount Crona has erupted after 150 years of silence. And your mission as an Emergency Rescue Helicopter Pilot is to save sightseers stranded on the slopes. Time is of the essence as the lava approaches the sightseers. But you'll have to take time to evade – or shoot – the boulders being hurled from the volcano.

## Carousel.

A re-creation of the fairground shooting gallery – with a difference. Shoot down all the ducks, owls and rabbits before you run out of ammunition. Watch out for the low-flying ducks. If you fail to shoot these, they'll steal your bullets and reduce your chances of success.

## Meteor Mission.

On an alien planet are six stranded astronauts. Launch your capsule from the Mothership and by avoiding – or shooting – meteors and alien craft, pick up the astronauts one at a time and return them to the Mothership.

All games – with the exception of Gateway to Karos which is currently only available on cassette – can be bought direct in either cassette or disc form. You will find all these programs at your local Acorn stockist. To find out where they are, or to order by credit card, simply ring 0933 79300 during office hours.

Alternatively, you can order the games by sending off the coupon below to: Acornsoft, c/o Vector Marketing, London Road, Wellingborough, Northants NN8 2RL. Please allow 28 days for delivery.

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| Volcano | | |
| Carousel | | |
| Meteor Mission | | |
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# NAMING THE GUILTY men

*JOHN CONQUEST selects text:*

**LET'S KICK off this month with a real goodie, *Micromania* (Sphere, £1.75), for my money the best introductory book available, and certainly the rudest and funniest.**

Written by Charles Platt (USA) and adapted for Britain by David Langford, it sets out to tell 'the whole truth about home computing' and does it with knowledge, wit and style. Aimed mainly at people hovering on the brink of, or with one toe in, the murky waters of the hobby,it manages to put the boot firmly in on virtually every aspect.

The chapter on manufacturers ('Naming Names'), is alone worth the price of admission and really shows up books like Tim Hartnell's *Personal Computer Handbook'*. Commodore get a particularly brutal savaging, but virtually all manufacturers stagger out of the ring covered in blood.

Even if you've already taken the plunge, there's plenty of good demystifying gen on, for instance, 'Translating Computer Magazines Into English'.

Of course, books like this always suffer from being a bit out of date, even when revised as this one has been. It doesn't tackle the thorny issue of MSX and went to press before Atari opened the latest price war, for instance. Even so, warmly recommended if only for the jokes.

*The Micro Enquirer* (Century, £8.95) on the other hand has no jokes, is excessively polite about everything and is as boring a book as you could hope to find. It's a format series of which about 90% is standing copy while the rest is specific to the Spectrum, 64, BBC or Atari XL. Put together from material published in Another Computer Magazine, there probably is some juice to be squeezed out of this bland little fruit, but overall it's too tedious for the general reader and not technical enough for serious computer freaks.

Putting 'The indispensible guide to your computer' on a book jacket sounds well OTT, but I must admit that Chris Williamson's *Getting the Most Out of Your BBC Micro*




(Penguin, £5.95) really does live up to it. Very clear, well laid out and to the point, it pulls off that rare trick in computer writing — of treading the thin line between flannel and techno-gibberish, and actually being straightforwardly informative.

Apart from picking up where the official 'User Guide' leaves off, it fills in the inevitable gaps. Should be in the box with every Beeb.

*Building Blocks for BBC Games* by Bruce Bayley (Melbourne House, £6.95) has the best printed game listing I've ever seen, beautifully clear with Checksum validations to boot. Unfortunately the games themselves look dull as ditchwater. (The giveaway is the strip on the cover saying 'Electron Compatible'). About a third of the book is actually given over to examining sub-routines, the 'building blocks' of the title, showing the applications of structured programming.

Robert Young and Roger Bush, the authors of *Games Commodore 64 Computers Play* (Addison-Wesley, £6.95) should be published by Melbourne House, if only because they're fellow Aussies. From their biogs they're obviously both heavy duty wargamers, but it doesn't show much in this selection of 19 listings, About half are arcade games, a quarter abstract strategy numbers and the rest adventures or simulations. A pity that Addison-Wesley went for reproducing dot-matrix printouts, which vary from fairly crisp to virtually invisible, because the games sound more interesting than most. I mean *Sunnybrook Farm* and *Roman Empire?* Change the ribbon next time, lads.

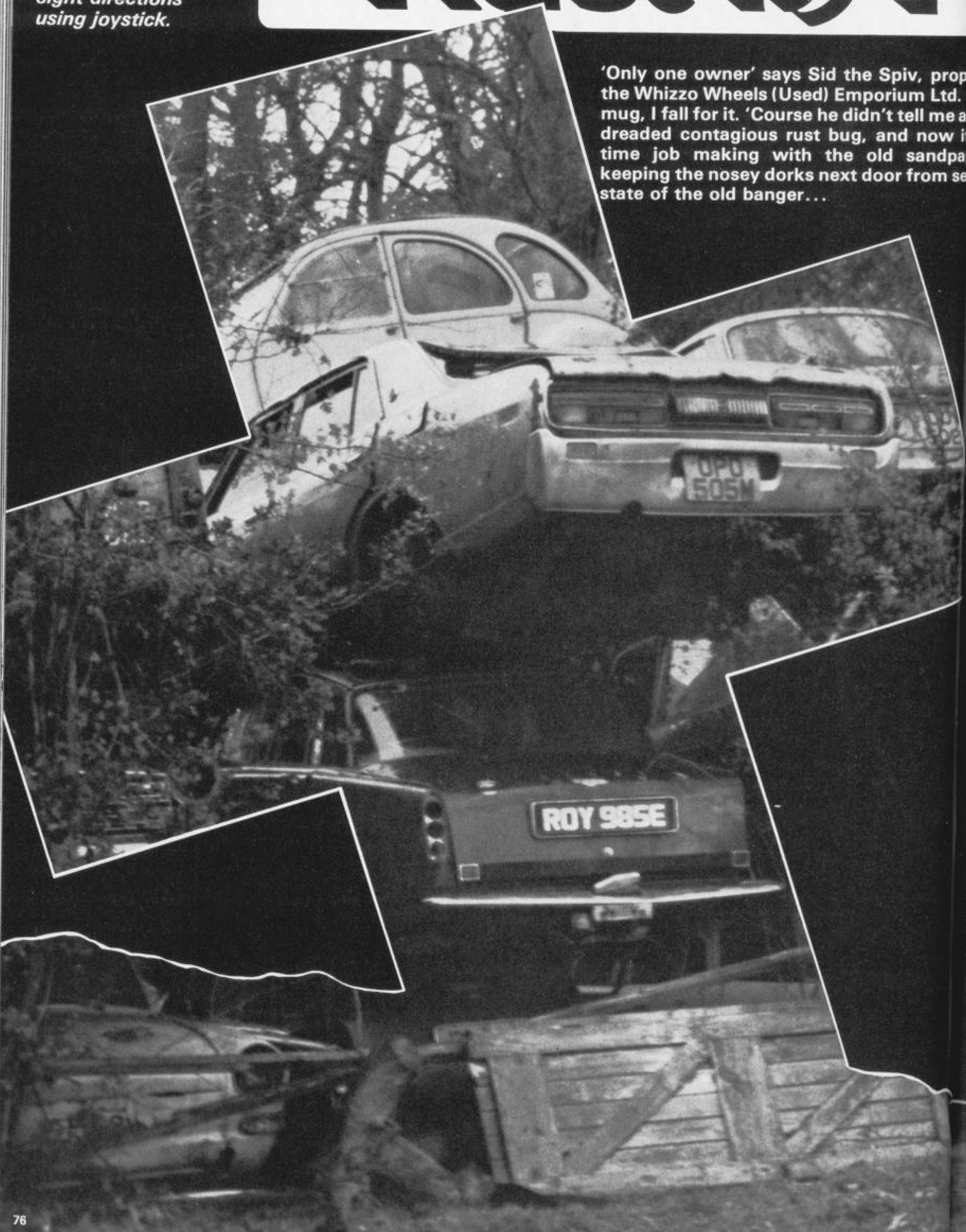
*CBM 64 Programs Vol 1* (Duckworth, £6.95), programs by Richard Franklin, edited by Nick Hampshire, suffers, if not quite so badly, from the same problem. A large chunk of the book is devoted to high-res graphics via machine code, with music, utilities, sprites, user defined characters, a long *Star Trek* game listing; plus a medieval stag-night adventure and a clutch of smaller games.

'As anyone who has tried to use their Commodore 64 at all seriously will know, the version of BASIC that it is equipped with is not the most advanced version around'. Thus Peter Gerrard introduces, with classic understatement, his *Advanced BASIC & Machine Code for the Commodore 64* (Duckworth, £6.95). In his usual thorough style, Gerrard, a really serious 64 man, sets out to go beyond those slow motion PEEKs and POKEs, using an arcade game to introduce the rudiments of machine code programming. Unlike its stable mate above, it boasts crystal clear listings, an excellent appendix of useful information summaries and a proper index.

# Rust in P

*Controls:*
*Move sandpaper in eight directions using joystick.*

**'Only one owner' says Sid the Spiv, propr the Whizzo Wheels (Used) Emporium Ltd. S mug, I fall for it. 'Course he didn't tell me ab dreaded contagious rust bug, and now it time job making with the old sandpap keeping the nosey dorks next door from see state of the old banger...**

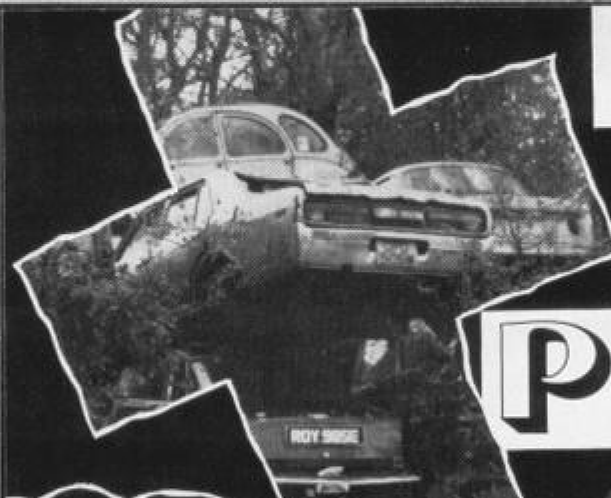


# Peace

# RUST IN PEACE for any Atari By P. Williams

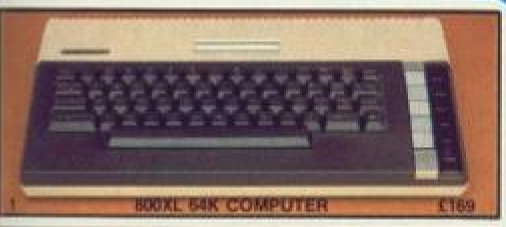
```
40 REM ┌─────────────────────┐
45 REM |        RUST         |
50 REM |         IN          |
55 REM |       PEACE         |
60 REM |                     |
65 REM |   PETER WILLIAMS    |
70 REM |     EDINBURGH       |
80 REM |                     |
85 REM |     REM'S ARE       |
90 REM |     NOT NEEDED      |
95 REM └─────────────────────┘
98 REM TYPE "POKE 32,0" BEFORE STARTING
99 REM TURN OFF SCREEN
       GOSUB TITLE PAGE & INITIALISE
100 POKE 559,0:GOSUB 580:GOSUB 1030
110 HIT=0:RY=55:FLAG=1:POKE 19,0:GOSUB 3
50
119 REM PLACE NEIGHBOUR AT TOP
        OR BOTTOM OF SCREEN
120 RUST=RND(0):XI=INT(RND(0)*200):IF RN
D(0)>0.5 THEN PM=PM1:MAN=53249:I=1:YI=0:
GOTO 140
130 I=2:PM=PM2:MAN=53250:YI=130
139 REM MAIN LOOP
140 XI=XI+LEV*(XI<128)-LEV*(XI>128):YI=Y
I+LEV*(YI<76)-LEV*(YI>76):A=USR(MOVE,I,P
MB,PM,XI,YI,8)
150 IF PEEK(53260)<>0 THEN GOSUB 390:GOT
O 120:REM SEE IF SANDPAPER RUBS
          OUT NEIGHBOUR
160 IF FLAG=1 THEN 180:REM NO RUST
169 REM SEE IF SANDPAPER HITS RUST
170 IF Y>62 AND Y<73 THEN IF X>PX(R)-5 A
ND X<PX(R)+5 THEN FLAG=1:SCR=10:C=2:SOUN
D 0,RX(R)+100,10,15:GOSUB 430
179 REM SEE IF NEIGHBOUR GETS
        TO MIDDLE OF CAR
180 IF INT(XI)>125 AND INT(XI)<131 AND I
NT(YI)>=70 AND INT(YI)<=78 THEN 490
190 POKE 53278,255:IF PEEK(19)>2 THEN GO
TO 490:REM RUST LEFT TOO LONG .
199 REM MOVE SANDPAPER
200 S=PEEK(632):A=USR(MOVE,0,PMB,PM0,X,Y
,8):SOUND 0,0,0,0
210 IF X>195 THEN X=195
220 IF X<55 THEN X=55
230 IF Y<5 THEN Y=5
240 IF Y>110 THEN Y=110
249 REM PLACE RUST ON CAR SOMETIMES
250 IF FLAG=1 THEN POKE 19,0:IF RUST>0.5
 THEN HOLD(0)=R:R=INT(RND(0)*12):HOLD(1)
=R:C=1:FLAG=0:GOSUB 430
259 REM JOYSTICK READER
260 IF S=5 THEN X=X+4:Y=Y+4:GOTO 140
270 IF S=6 THEN X=X+4:Y=Y-4:GOTO 140
280 IF S=7 THEN X=X+4:GOTO 140
290 IF S=9 THEN X=X-4:Y=Y+4:GOTO 140
300 IF S=10 THEN X=X-4:Y=Y-4:GOTO 140
310 IF S=11 THEN X=X-4:GOTO 140
320 IF S=13 THEN Y=Y+4:GOTO 140
330 IF S=14 THEN Y=Y-4:GOTO 140
340 GOTO 140
349 REM ADD SCORE ACCORDING TO LEVEL
        AND PRINT IN TEXT WINDOW
350 SCORE=SCORE+SCR*LEVEL
360 IF SCORE>TOP THEN TOP=SCORE
370 POKE 656,0:POKE 657,2:? "SCORE: ";SC
ORE;:? "  HIGH-SCORE: ";TOP
380 POKE 656,2:POKE 657,2:? "LEVEL: ";LE
VEL;:SCR=0:RETURN
389 REM RUB OUT NEIGHBOUR
        AND UP LEVEL IF 5 HIT
390 SCR=20:YI=0:POKE MAN,0:FOR I=1 TO 20
:POKE 53278,255:SOUND 0,(MAN/300+50)*I,1
2,10:NEXT I
400 SOUND 0,0,0,0:HIT=HIT+1:IF HIT<>5 TH
EN GOSUB 350:RETURN
410 POKE 704,55:LEV=LEV+0.1:LEVEL=LEVEL+
1:HIT=0:IF LEVEL>50 THEN LEVEL=50
420 GOSUB 350:SOUND 0,250,10,15:FOR W=1
TO 50:NEXT W:SOUND 0,0,0,0:SOUND 0,150,1
0,15:FOR W=1 TO 50:NEXT W
425 SOUND 0,250,10,15:FOR W=1 TO 50:NEXT
 W:SOUND 0,0,0,0:POKE 704,0:RETURN
429 REM DRAW/ERASE RUST
430 IF HOLD(0)=HOLD(1) THEN FLAG=1:POP :
GOTO 250
440 GOSUB 350
450 COLOR C:PLOT RX(R)-1,RY-2:DRAWTO RX(
R)+1,RY-2:PLOT RX(R)+2,RY-2
460 PLOT RX(R)-2,RY-1:DRAWTO RX(R)+1,RY-
1
470 PLOT RX(R)-1,RY:DRAWTO RX(R)+2,RY:PL
OT RX(R)-1,RY+1:DRAWTO RX(R)+1,RY+1:PLOT
 RX(R)-2,RY+2:DRAWTO RX(R)-1,RY+2
480 PLOT RX(R)+2,RY+2:RETURN
489 REM GAME OVER
490 C=1:FOR I=1 TO 20:SOUND 0,RX(R)+100,
10,15:R=INT(RND(0)*12):RD=INT(RND(0)*3):
RY=52+RD*5
500 GOSUB 450:SOUND 0,0,0,0:NEXT I:POKE
510 FOR I=53248 TO 53250:POKE I,0:NEXT I
519 REM CAR1$,CAR2$,CAR3$
        MUST BE TEN CHARACTERS LONG
520 CAR1$="   GAME-!#"
530 CAR2$="          "
540 CAR3$="   over-!#"
549 REM START ALL OVER AGAIN
550 GRAPHICS 18:FLAG=1:GOSUB 660:GRAPHIC
S 7:POKE 559,0:SCR=0
560 GOSUB 1030:X=128:XI=0:Y=64:YI=0:POKE
 53248,X:POKE 53249,XI:POKE 53250,XI
570 A=USR(MOVE,0,PMB,PM0,X,Y,8):POKE 559
,46:POKE 53277,3:RY=55:SCORE=0:GOTO 110
579 REM REDEFINE CHARACTER SET
580 DIM BYTE$(80),CAR1$(10),CAR2$(10),CA
R3$(10),RX(11),PX(11),HOLD(1)
589 REM CAR1$,CAR2$,CAR3$
        MUST BE TEN CHARACTERS LONG
590 CAR1$="   RUST-!#"
600 CAR2$="     [illegible]"
610 CAR3$="  peace-!#"
620 CHS=PEEK(106)-28:POKE 106,CHS-1:CH=C
HS*256
630 FOR I=1 TO 32:READ A:BYTE$(I,I)=CHR$
(A):NEXT I
640 DATA 104,104,133,213,104,133,212,104
,133,215,104,133,214,162,4,160,0,177,212
,145,214
650 DATA 200,208,249,230,213,230,215,202
,208,240,96
660 Q=USR(ADR(BYTE$),57344,CH)
670 RESTORE 690:FOR X=0 TO 7:READ A:POKE
 CH+8+X,A:NEXT X
680 FOR X=0 TO 7:READ A:POKE CH+24+X,A:N
EXT X
690 DATA 0,31,33,65,255,255,255,24
700 DATA 0,224,144,136,254,255,255,24
709 REM TITLE PAGE
710 GRAPHICS 18:POKE 712,0:POKE 756,CHS
720 SOUND 0,RND(0)*20+20,80,15:FOR J=10
TO 1 STEP -1:POSITION 0,2:? #6;CAR1$(J,1
0):FOR W=1 TO 50:NEXT W:NEXT J
730 FOR J=10 TO 1 STEP -1:POSITION 0,4:?
 #6;CAR2$(J,10):FOR W=1 TO 50:NEXT W:NEX
T J
740 FOR J=10 TO 1 STEP -1:POSITION 0,6:?
 #6;CAR3$(J,10):FOR W=1 TO 50:NEXT W:NEX
T J:SOUND 0,0,0,0:X=8:Y=10
750 POSITION 0,X:? #6;"FOR RULES HIT sel
ect":POSITION 0,Y:? #6;"TO PLAY HIT sta
rt    "
760 IF PEEK(53279)=5 THEN 880
770 IF PEEK(53279)<>6 THEN SOUND 0,Z*50,
10,15:FOR W=1 TO 100:NEXT W:Z=X:X=Y:Y=Z:
SOUND 0,0,0,0:GOTO 750
779 REM LEVEL SELECTOR
780 GRAPHICS 18:POKE 708,0:POKE 756,CHS:
POKE 712,10:POKE 709,54:POKE 710,55:POSI
TION 2,2:? #6;"LEVEL SELECTOR"
790 POSITION 2,4:? #6;"press SELECT for"
:POSITION 2,5:? #6;"level you require"
800 POSITION 1,7:? #6;"press START to pl
ay"
```

**Continued over page**

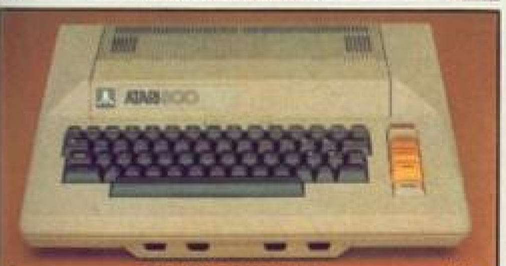


# Rust in Peace

```
810 POSITION 8,9:? #6:"[illegible]"
820 POSITION 8,10:? #6:"00":LEVEL=0
830 POSITION 8,11:? #6:"[illegible]":LEVEL=0
840 SOUND 0,0,0,0:FOR W=1 TO 50:NEXT W:A
=PEEK(53279):IF A=5 THEN LEVEL=LEVEL+1:I
F LEVEL>50 THEN LEVEL=0
850 IF LEVEL<>0 AND A=6 THEN LEV=LEVEL/1
0-1:RETURN
860 SOUND 0,LEVEL*50,10,10:IF LEVEL<10 T
HEN POSITION 8,10:? #6;"0";LEVEL:GOTO 84
0
870 POSITION 8,10:? #6;LEVEL:GOTO 840
879 REM INSTRUCTIONS
880 GRAPHICS 17:POKE 756,CHS:POKE 708,0:
POKE 709,14:POKE 712,8
890 POSITION 1,0:? #6;"!# instructions !
#":? #6:? #6;"  YOU ARE THE PROUD OWNER
OF AN OLD CAR."
900 ? #6:? #6;"HOWEVER TO YOUR     DISMA
Y IT STARTS    BREAKING OUT IN RUST"
910 ? #6:? #6;"TO HELP YOU COMBAT  THIS
YOU HAVE YOUR  TRUSTY SANDPAPER.":? #6
920 ? #6;"YOU CAN MOVE IN     8 DIRECTIO
NS USING  A JOYSTICK IN PORT 1"
930 POSITION 4,20:? #6;"press start":POS
ITION 4,22:? #6;"to continue"
940 IF PEEK(53279)<>6 THEN 940
950 ? #6;"K"
960 ? #6;" AS USUAL OF COURSE YOUR KNOW-
IT-ALL    NEIGHBOURS":? #6:? #6;"ARE DET
ERMINED TO   CRITITCIZE."
970 ? #6:? #6;"OR BOAST ABOUT THEIR NEW
METRO'S.":? #6:? #6;" SHOULD THEY REACH
 THE MIDDLE OF YOUR  CAR "; .
980 ? #6;"THE GAME ENDS.":? #6:? #6;" IF
 THE RUST IS LEFTTOO LONG IT SPREADS AND
 THE GAME ALSO   ENDS."
990 ? #6:? #6;"THERE ARE 50 LEVELS 1=BOR
ING 50=SUICIDAL"
1000 POSITION 0,22:? #6;"press start to
play"
1010 IF PEEK(53279)<>6 THEN 1010
1020 GOSUB 780:RETURN
1029 REM CREATE NEW DISPLAY LIST
1030 GRAPHICS 7:POKE 559,0:DLIST=PEEK(56
0)+256*PEEK(561):FOR I=DLIST+6 TO DLIST+
201:IF PEEK(I)<>66 THEN NEXT I
1040 POP :POKE I-1,PEEK(I-1)+128
1050 RESTORE 1060:FOR I=0 TO 19:READ J:P
OKE 1536+I,J:NEXT I
1060 DATA 72,138,72,162,50,169,12,141,10
,212
1070 DATA 141,23,208,142,24,208,104,170,
104,64
1080 POKE 512,0:POKE 513,6:POKE 54286,19
2:POKE 1540,125:POKE 1542,0
1089 REM DRAW CAR
1090 POKE 712,125:POKE 709,169:POKE 708,
22:POKE 752,1:COLOR 2
1100 PLOT 30,30:DRAWTO 99,30:PLOT 29,30:
DRAWTO 20,49:PLOT 20,50:DRAWTO 140,50:PL
OT 20,50:DRAWTO 20,69
1110 PLOT 89,30:DRAWTO 89,49:PLOT 19,50:
DRAWTO 19,69:DRAWTO 24,69:DRAWTO 32,61:D
RAWTO 37,61:DRAWTO 45,69
1120 DRAWTO 105,69:DRAWTO 113,61:DRAWTO
118,61:DRAWTO 126,69:DRAWTO 140,69:DRAWT
O 140,50
1130 PLOT 99,30:DRAWTO 119,50:FOR I=50 T
O 61:PLOT 20,I:DRAWTO 140,I:NEXT I
1140 PLOT 23,69:DRAWTO 31,61:PLOT 22,69:
DRAWTO 30,61:PLOT 21,69:DRAWTO 29,61
1150 PLOT 21,68:DRAWTO 29,60:PLOT 21,67:
DRAWTO 29,59:PLOT 21,66:DRAWTO 29,58:PLO
T 21,65:DRAWTO 29,57
1160 PLOT 21,67:DRAWTO 29,57:PLOT 21,68:
DRAWTO 29,56:PLOT 21,69:DRAWTO 29,57:PLO
T 21,69:DRAWTO 29;61
1170 PLOT 21,64:DRAWTO 29,58:PLOT 21,63:
DRAWTO 29,57:PLOT 21,62:DRAWTO 29,56:PLO
T 21,61
1180 FOR I=50 TO 69:PLOT 45,I:DRAWTO 105
,I:NEXT I:FOR I=50 TO 69:PLOT 126,I:DRAW
TO 140,I:NEXT I
1190 PLOT 105,68:DRAWTO 113,60:PLOT 106,
67:DRAWTO 113,59:PLOT 106,66:DRAWTO 113,
58:PLOT 106,65:DRAWTO 113,58
1200 PLOT 106,64:DRAWTO 113,61:PLOT 106,
63:DRAWTO 113,61:PLOT 106,62:PLOT 107,62
1210 FOR I=0 TO 12:PLOT 118,61:DRAWTO 12
0+I,69:NEXT I:PLOT 122,62:DRAWTO 125,62:
DRAWTO 125,63
1220 FOR I=0 TO 7:PLOT 37+I,61:DRAWTO 45
,69:NEXT I
1230 RESTORE 1250:FOR I=0 TO 11:READ A:R
X(I)=A:NEXT I
1240 FOR I=0 TO 11:READ A:PX(I)=A:NEXT I
1250 DATA 25,35,45,55,65,75,85,95,105,11
5,125,135
1260 DATA 68,80,89,98,110,119,131,140,14
9,161,170,179
1270 A=34:B=67:GOSUB 1280:A=115:GOSUB 12
80:GOTO 1350
1279 REM DRAW WHEELS
1280 COLOR 3:PHI=0:Y1=0:X1=8:FOR R=0 TO
5
1290 PHIY=PHI+Y1+Y1+1:PHIX=PHIY-X1-X1+1
1300 PLOT A+X1,B+Y1:PLOT A-X1,B+Y1:PLOT
A+X1,B-Y1:PLOT A-X1,B-Y1:PLOT A+Y1,B+X1:
PLOT A-Y1,B+X1
1310 PLOT A+Y1,B-X1:PLOT A-Y1,B-X1:PHI=P
HIY:Y1=Y1+1
1320 IF ABS(PHIX)<ABS(PHIY) THEN PHI=PHI
X:X1=X1-1
1330 IF X1>=Y1 THEN 1290
1340 X1=X1-1:Y1=0:NEXT R:RETURN
1350 IF FLAG=1 THEN RETURN :REM ALREADY
SETUP P/M GRAPHICS
1359 REM P/M MACHINE CODE
1360 DIM PMMOV$(100),P0$(30),P1$(30),P2$
(30):MOVE=ADR(PMMOV$):FOR X=1 TO 100:REA
D N:PMMOV$(X)=CHR$(N):NEXT X
1370 FOR X=1 TO 8:READ A:P0$(X)=CHR$(A):
NEXT X
1380 FOR X=1 TO 8:READ A:P1$(X)=CHR$(A):
NEXT X
1390 FOR X=1 TO 8:READ A:P2$(X)=CHR$(A):
NEXT X
1400 PMBASE=INT((PEEK(145)+3)/4)*4:POKE
54279,PMBASE
1410 PMB=PMBASE*256:PM0=ADR(P0$):POKE 55
9,46:POKE 53277,3:POKE 704,0:POKE 705,55
:POKE 706,0:POKE 623,1
1420 PM1=ADR(P1$):PM2=ADR(P2$)
1430 X=128:X1=0:X2=0:Y=50:Y1=0:Y2=0
1440 A=USR(MOVE,0,PMB,PM0,X,Y,8)
1450 A=USR(MOVE,1,PMB,PM1,X1,Y1,8)
1460 A=USR(MOVE,2,PMB,PM2,X2,Y2,8)
1470 RETURN
1480 DATA 216,104,104,104,133,213,104,24
,105,2,133,206,104,133,205,104,133,204,1
04,133,203,104,104,133,208
1490 DATA 104,104,133,209,104,104,24,101
,209,133,207,166,213,240,16,165,205,24,1
05,128,133,205,165,206,105
1500 DATA 0,133,206,202,208,240,160,0,16
2,0,196,209,144,19,196,207,176,15,132,21
2,138,168,177,203,164
1510 DATA 212,145,205,232,169,0,240,4,16
9,0,145,205,200,192,128,208,224,166,213,
165,208,157,0,208,96
1520 DATA 255,255,255,255,255,255,255,25
5
1530 DATA 126,36,24,60,126,189,36,102
1540 DATA 126,189,153,126,60,60,36,102
1550 REM TERMINATE GAME WITH
      SYSTEM RESET NOT BREAK
32767 GRAPHICS 0:POKE 709,2:POKE 710,0:P
OKE 82,0
```



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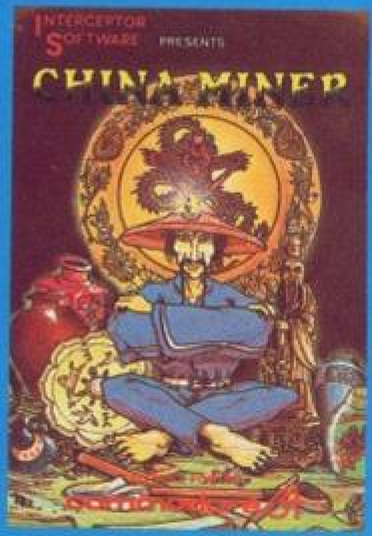

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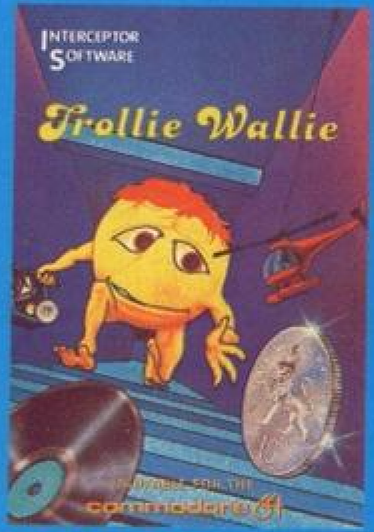


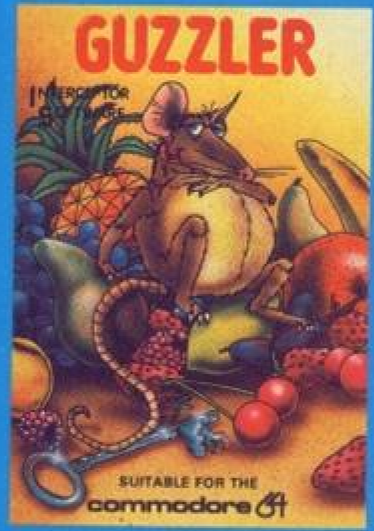
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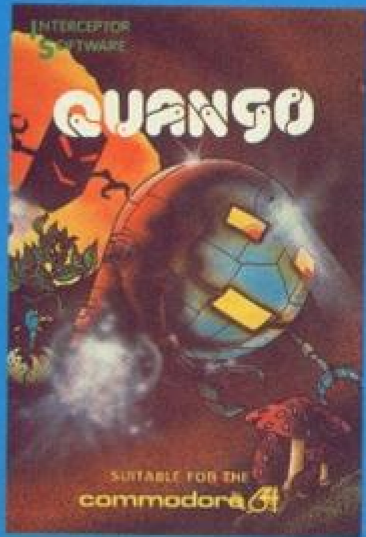

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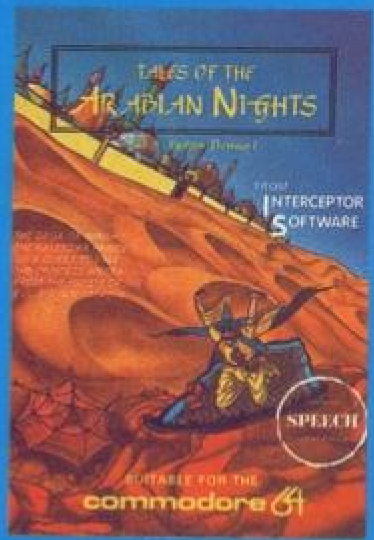

## COMMODORE 64



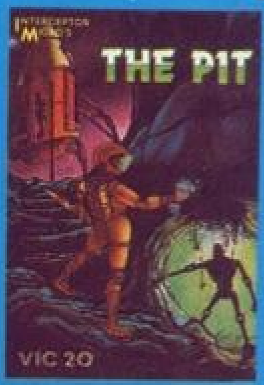

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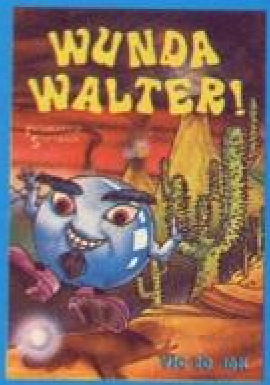
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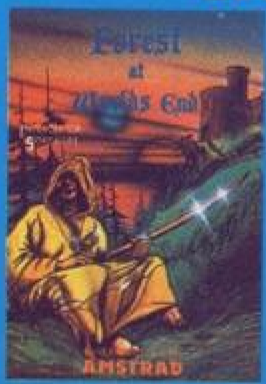


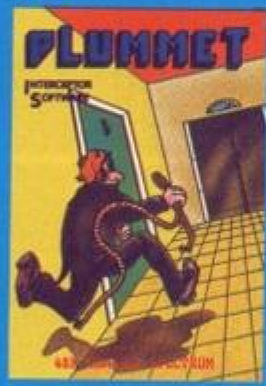

## VIC 20




## SPECTRUM




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# BIG K CHARTS

## GAMES TOP 20

KEY **N** = NEW ENTRY **R** = RE-ENTRY **K** = BIG K RAVE

| THIS MONTH | LAST MONTH | | | | |
|---|---|---|---|---|---|
| 1 | 1 | | DALEY THOMPSON'S DECATHLON (Ocean) | Spectrum/Commodore 64 | £7.90 |
| 2 | 2 | | FULL THROTTLE (MicroMega) | Spectrum | £6.95 |
| 3 | 10 | | MONTY MOLE (Gremlin Graphics) | Spectrum/Commodore 64 | £6.95/£7.95 |
| 4 | 4 | | TORNADO LOW LEVEL (Vortex) | Spectrum | £5.95 |
| 5 | 8 | | BEACH HEAD (US Gold) | Spectrum/Commodore 64 | £7.95/£9.95 |
| 6 | N | K | AVALON (Hewson) | Spectrum | £7.95 |
| 7 | 6 | | MATCH POINT (Psion) | Spectrum | £7.95 |
| 8 | 7 | K | LORDS OF MIDNIGHT (Beyond) | Spectrum | £9.99 |
| 9 | 3 | K | SABRE WULF (Ultimate) | Spectrum | £9.95 |
| 10 | 5 | | JET SET WILLY (Software Projects) | Spectrum | £5.95 |
| 11 | R | K | FOOTBALL MANAGER (Addictive) | Spectrum/Commodore 64/BBC | £6.95/£7.95 |
| 12 | N | | KOKOTINI WILF (Elite) | Spectrum/Commodore 64 | £5.95/£6.95 |
| 13 | N | K | SHERLOCK (Melbourne House) | Spectrum | £14.95 |
| 14 | N | | AMERICAN FOOTBALL (Argus Press) | Spectrum | £9.95 |
| 15 | 9 | | DECATHLON (Activision) | Commodore 64 | £9.99 |
| 16 | 12 | | RAPSCALLION (Bug-Byte) | Spectrum | £6.95 |
| 18 | R | K | PSYTRON (Beyond) | Spectrum | £7.95 |
| 19 | N | | CHARTBUSTER (Alligata) | Commodore 64/BBC | £9.95 |
| 20 | 20 | | JACK AND THE BEANSTALK (Thor) | Spectrum | £5.95 |

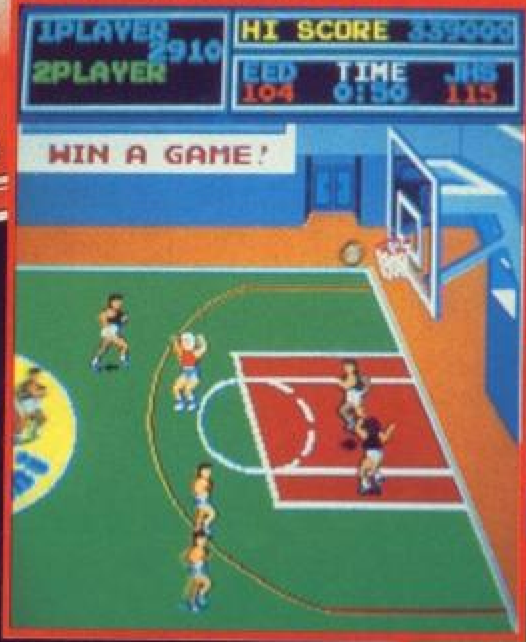
## SPECTRUM TOP 20

| | | |
|---|---|---|
| 1 | DALEY THOMPSON'S DECATHLON (Ocean) | £7.90 |
| 2 | FULL THROTTLE (MicroMega) | £6.95 |
| 3 | TORNADO LOW LEVEL (Vortex) | £5.95 |
| 4 | AVALON (Hewson) | £7.95 |
| 5 | MATCH POINT (Psion) | £7.95 |
| 6 | LORDS OF MIDNIGHT (Beyond) | £9.99 |
| 7 | SABRE WULF (Ultimate) | £9.95 |
| 8 | JET SET WILLY (Software Projects) | £5.95 |
| 9 | MONTY MOLE (Gremlin Graphics) | £6.95 |
| 10 | BEACH HEAD (US Gold) | £7.95 |
| 11 | SHERLOCK (Melbourne House) | £14.95 |
| 12 | AMERICAN FOOTBALL (Argus Press) | £9.95 |
| 13 | WORLD CUP FOOTBALL (Artic) | £6.95 |
| 14 | RAPSCALLION (Bug-Byte) | £6.95 |
| 15 | KOKOTINI WILF (Elite) | £5.95 |
| 16 | FOOTBALL MANAGER (Addictive) | £6.95 |
| 17 | PSYTRON (Beyond) | £7.95 |
| 18 | JACK AND THE BEANSTALK (Thor) | £5.95 |
| 19 | FIGHTER PILOT (Digital Integration) | £7.95 |
| 20 | OLYMPICON (Mitech) | £5.95 |

## COMMODORE 64 TOP 20

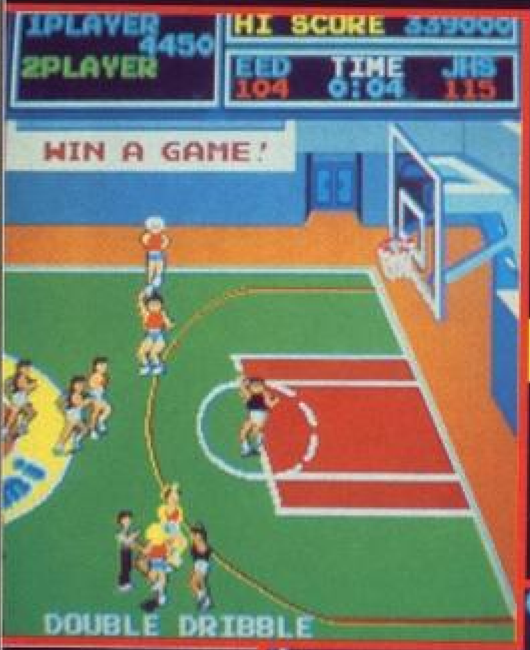
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|---|---|---|
| 1 | DALEY THOMPSON'S DECATHLON (Ocean) | £7.90 |
| 2 | BEACH HEAD (US Gold) | £9.95 |
| 3 | MONTY MOLE (Gremlin Graphics) | £7.95 |
| 4 | KOKOTINI WILF (Elite) | £6.95 |
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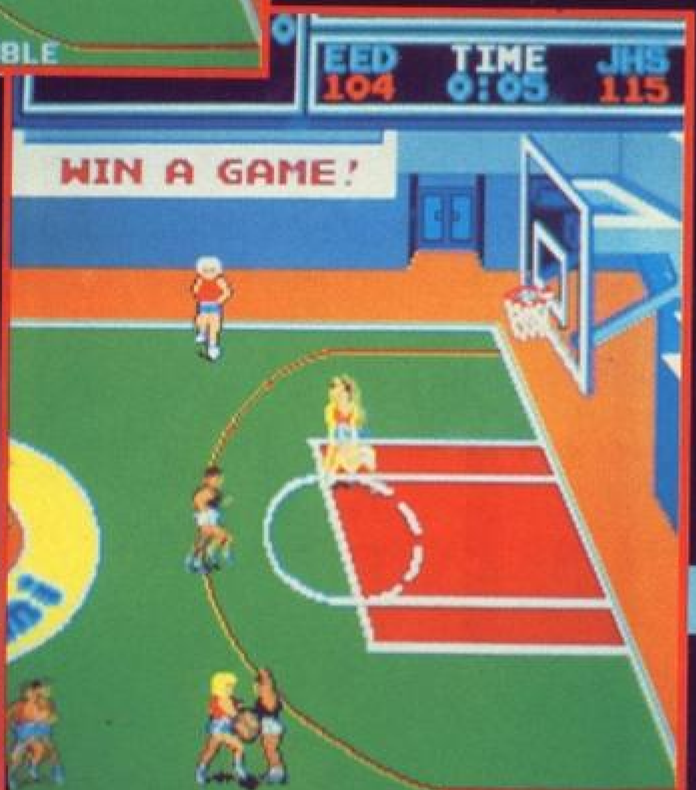
# THE TIGER AND THE BALLGAME










**Muscles, to DAVID DORRELL, are oval purply jobs you find on the beach. Which made *Super Basketball* a bit of a toughie to handle. . .**

SUPER BASKETBALL

HAVING BEEN a prize slouch at anything involving kit or, God forbid, outdoor physical activity, the new spate of sports-based arcade action made me feel distinctly uneasy. There was a troubling irony here . . .

At first, games like *Track & Field* were like poor relations, with flat cartoon figures barely evolved from the little yellow blobs that used to munch their way across the screens. And while one could make a plausible case for space games being a good, honest substitute for aimless violence, the sports games seemed to be only a substitute for aimless sports. Intellectuals like myself come to arcades to escape just these sorts of useless activity.

More of an obstacle was the fact that the games are often American, and thus




quite alien, which brought them, I suppose, back into the realm of the true arcade game. *Ten Yard Fight* (and who ever heard of a sport called *Ten Yard Fight*?) was the best of these, since its rules might as well have been those of a space battle, and the bizarre formation tackles a challenge to any

# AME

Defender's wits.

Here one was back in the abstract, where all that mattered was the split-second of galvanising interplay between human nerve and electronic pulse. You can dress that up how you will and call it a substitute for whatever you like, the arcade termite will devour it all. And so, in time, I too became a digital decathlete. What does a digital decathlete do between Olympics?

He or she could try Konami's *Super Basketball*, although he might feel a little out of place since the players in this simple but neatly transposed sports game are all female. Perhaps designed to counter such popular macho numbers as Nintendo's *Punch Out*, which this summer saw queues of bruising male players eager for a joystick bout, *Super Basketball* is a less aggressive, more nimble game.

With three possible actions — dribble, pass or shot — the action is easier to get to grips with than *Punch Out*, but faster and more complicated in its possible plays, facilitated by a more realistic screen perspective.

Unlike *Track & Field* or *Ten Yard Fight*, the speed of play barely lets up, and the game requires constant responses: tackles must be dodged by single dribbles, passes made to team players in the right positions, and shots taken as near the basket as possible all in all, I reckon it could make a sportswoman of me yet.

## TWO TIGERS

PRIMITIVE in its conception, barbarian in its programming, *Two Tigers* nevertheless has the virtue of being supremely and deafeningly dumb. Its sole innovation is the dual control system, allowing two chumps to do battle with the even more limited intelligence at work behind the screen instead of the usual one.

Selecting the 'dogfight' mode will enable you to engage your arch rival in the air even as you stand at his side. Already, the options begin to close in.

Your fighter, so cheerfully scrambled at the drop of a coin, must defend a battleship of some nameless class that steams into view with all the drama of a plastic duck at a shooting gallery. Nor is your aircraft itself the Cinerama model to which so much was owed by so many.

This particular conflict plays itself out against skies stained with screaming Stukas, yes, but sadly one's own machine is hard to spot among all the others buzzing like hornets around the screen. Luckily, the representation of this war theatre bears no relation to real life nor even the laws of gravity of aerodynamics. None of this matters much though, as the only reason for playing this game is the soundtrack.

A composite reel of old war movie sound effects, complete with cries of 'bombs away!' and even — inexplicably → a cavalry fanfare, this serves to conjure all the atmosphere the graphics lack. Its not unlike a 20p ride on a sort of aural dodgems. You'll probably find your arch rival has gone down laughing.

Pics: DAVID CORRIER



# BLACKJACK




```
   10REM *************************
   20REM **      Pontoon  V2     **
   30REM **   August 2nd 1984    **
   40REM ** (C)  M.C.Ironmonger **
   50REM *************************
   60MODE1:VDU19,2,2;0;:COLOUR130:DIMC$(
13):ONERRORRUN
   70A$=CHR$10+STRING$(5,CHR$8):B$=CHR$2
55:C$="      "+A$:D$="  "+B$+"  "+A$:E$="
 "+B$+" "+B$+" "+A$:F$=" "+B$+B$+B$+" "+
A$
   80C$(0)=STRING$(6,"$$$$$"+A$)+"$$$$$"
:C$(1)="A     "+A$+C$+C$+D$+C$+C$+"    A"
   90C$(2)="2      "+A$+D$+C$+C$+C$+D$+"
2":C$(3)="3      "+A$+D$+C$+D$+C$+D$+"
3":C$(4)="4      "+A$+E$+C$+C$+C$+E$+"
4":C$(5)="5      "+A$+E$+C$+D$+C$+E$+"
5"
  100C$(6)="6      "+A$+E$+C$+E$+C$+E$+"
6":C$(7)="7      "+A$+E$+D$+E$+C$+E$+"
7":C$(8)="8      "+A$+E$+D$+E$+D$+E$+"
8":C$(9)="9      "+A$+F$+C$+F$+C$+F$+"
9"
  110C$(10)="10    "+A$+E$+E$+E$+E$+E$+"
10":C$(11)="J    "+A$+E$+E$+F$+E$+E$+"
   J":C$(12)="Q   "+A$+E$+F$+E$+F$+E$+
"    Q":C$(13)="K  "+A$+F$+E$+F$+E$+F$
+"    K"
  120PRINTTAB(7,3);" How many players (1
-5) ? ":REPEAT A$=GET$
  130UNTIL A$>"0"ANDA$<"6":P=VAL(A$)-1
  140CLS:DIMM(P),S(P),T(P+1),Z(51)
  150FORA=0TOP:M(A)=50:X=A*8+1:REPEAT:PR
INTTAB(X+1,0);STRING$(LEN(A$)," ");TAB(1
6,10);"Player ";A+1
  160INPUTTAB(X,0);A$:UNTIL LEN(A$)<6:PR
INTTAB(X,0);" ":NEXT
  170FORA=0TO51:Z(A)=A+13:NEXT:VDU28,0,3
1,39,1
  180CLS:FORA=0TO51:B=RND(51):C=Z(B):Z(B
)=Z(A):Z(A)=C:NEXT
  190COLOUR0:FORA=0TOP:X=A*8+2:PRINTTAB(
X,0);"'";M(A):IFM(A)>0THENPROCC(X,2,0)
  200NEXT:COLOUR3:PRINTTAB(2,21);"BANKER
":PROCC(2,23,0)
  210FORI=0TOP:T(I)=0:IFM(I)=0THEN250ELS
E G=I:X=8*I+2:PROCC(X,2,Z(G))
  220PRINTTAB(X,14);"STAKE"
  230PRINTTAB(X,15);STRING$(40," "):INPU
TTAB(X,15)"'"S(I)
  240IFS(I)<1ORS(I)>M(I)ORS(I)<>INT(S(I)
)THENVDU7:GOTO230
  250NEXT:FORA=0TOP:IFM(A)=0THEN260ELSE
PROCC(A*8+2,3,0)
  260NEXT:PROCC(4,23,0)
  270G=P+2:H=0:FORI=0TOP:IFM(I)=0THEN390
ELSE L=0:J=3:X=8*I+2:K=S(I):PROCT(I)
  280PRINTTAB(X-1,17);"STICK.S";TAB(X-1,
18);"TWIST.T";TAB(X-1,19);"BUY...B"
  290PROCC(X,J,Z(G)):PROCT(G):G=G+1:J=J+
1:IFT(I)<22THEN310
  300PRINTTAB(X,14);"BUST!":H=H+1:T(I)=0
:GOTO370
  310IFJ=7THENT(I)=21+T(I)/50:GOTO370
```

# CK DEALER

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**for BBC Model B/Electron**
**by M.C. Ironmonger**

*Fancy yourself as a card-sharp? Try to beat the house odds, and you'll see why it's the casino owners, not you, who're driving around in Cadillacs. So why not try out this cheap home version, and save yourself the heart-ache? Try to make twenty-one points, or as close to it as you can. Instructions to the machine: Twist – Give me a new card. Buy – New card but increase the bet. Stick – hold the hand you've got.*



```
  320A$=GET$:IFA$="T"THEN290
  330IFA$<>"B"THEN350
  340IFS(I)+K<=M(I)THEN S(I)=S(I)+K:PRIN
TTAB(X+1,15);S(I):GOTO290
  350IFA$<>"S"THENVDU7:GOTO320ELSEIFT(I)
+L<22THENT(I)=T(I)+L
  360IFT(I)=21ANDJ=4THENT(I)=22
  370PRINTTAB(X-1,17);"           ";TAB(X-1,
18);"          ";TAB(X-1,19);"          "
  380IFT(I)<12ANDT(I)>0ANDL=10THENT(I)=T
(I)+L
  390NEXT
  400J=4:I=P+1:T(I)=0:L=0:PROCC(2,23,Z(I
)):PROCT(I)
  410PROCC(J,23,Z(G)):PROCT(G):B=T(I):PR
INTTAB(17,24);"BANK HAS ";B;
  420IFL=10ANDB<12THENPRINT" OR ";B+L EL
SEPRINT"          "
  430FORA=1TO2500:NEXT:IFB<22THEN450
  440PRINTTAB(17,26);"BANK IS BUST";TAB(
17,28);"PAY ALL HANDS":B=0:GOTO510
  450G=G+1:J=J+2:IFJ=12THENB=21+B/50:GOT
O470
  460IFH<>5AND(B+L<17ORB+L>21)ANDB<=H+15
THEN410
  470PRINTTAB(17,26);"BANK STICKS":IFB+L
<22THENB=B+L
  480IFB=21ANDJ=6THENB=22:PRINTTAB(17,28
);"BANK TAKES ALL":GOTO510
  490IFB>20THENPRINTTAB(17,28);"PAY PONT
OONS AND FCT'S":GOTO510
  500PRINTTAB(17,28);"PAY ";B+1;"'S"
  510FORA=1TO999:NEXT:FORA=0TOP:IFB<T(A)
THENM(A)=M(A)+S(A)ELSEM(A)=M(A)+S(A)*(M(
A)>0)
  520PRINTTAB(A*8+3,0);M(A);"    ":NEXT:C
OLOUR1:COLOUR131:*FX15,0
  530PRINTTAB(5,18)"Press any key for th
e next hand":A=GET:COLOUR130:GOTO180
  540DEFPROCT(B) A=Z(B)MOD13+1:IFA>10THE
NA=10
  550T(I)=T(I)+A:IFA=1THENL=10
  560ENDPROC
  570DEFPROCC(A,B,C):COLOUR131:RESTORE:I
FC=OCOLOUR1:GOTO590
  580ONC DIV13GOSUB610,620,630,640:C=C M
OD13+1
  590PRINTTAB(A,B);C$(C);:MOVEA*32,992-B
*32:PLOT3,156,0:PLOT3,0,-224
  600PLOT3,-156,0:PLOT3,0,224:COLOUR0:CO
LOUR130:ENDPROC
  610COLOUR1:VDU23,255,8,28,62,127,62,28
,8,0:RETURN
  620COLOUR0:VDU23,255,28,28,107,127,127
,107,28,0:RETURN
  630COLOUR1:VDU23,255,54,127,127,127,62
,28,8,0:RETURN
  640COLOUR0:VDU23,255,8,28,62,127,127,1
07,28,0:RETURN
```

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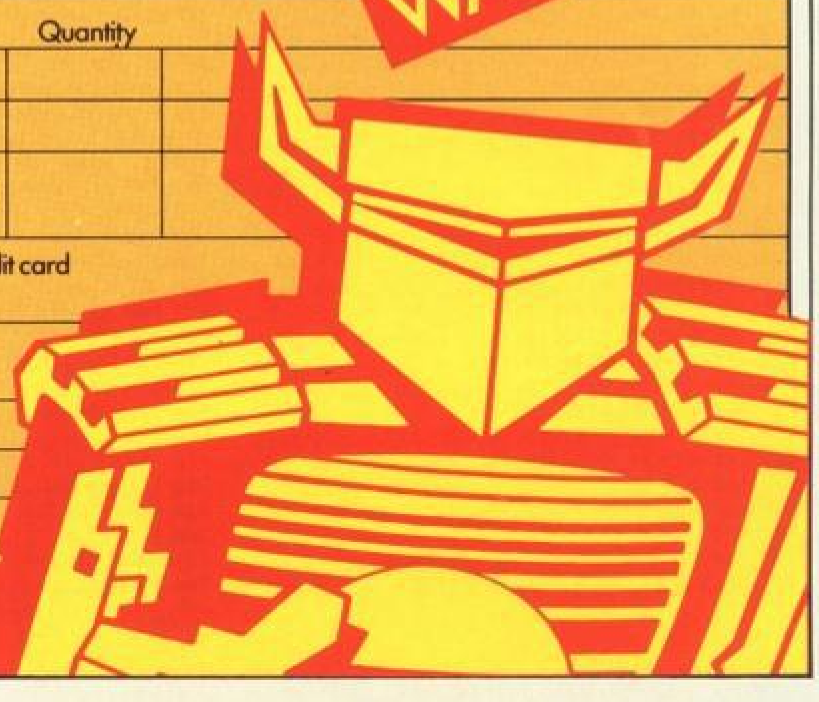
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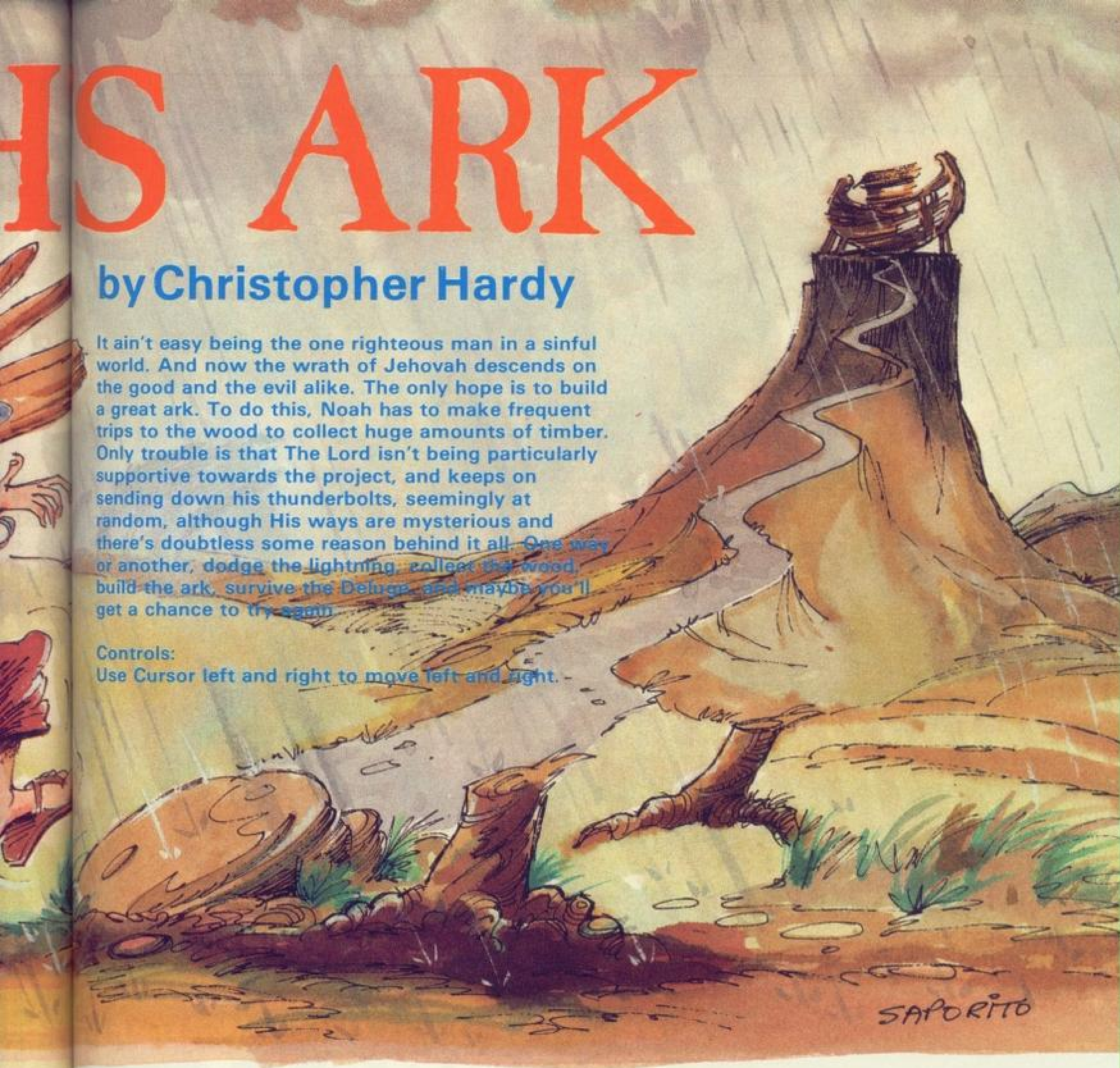
K1-85



# NOAHS

```
10 DATA1,6,6,6,8,9,8,9,6,4,1,4
20 FORF=1TO12:READZ:NEXTF
50 GOSUB5000
70 GOSUB2000
80 POKE618,10
90 HI=200
95 DF=150:DA=0:M=5:LG=0:T=0:A=0:K=0
100 REM **** INITIAL.
105 GOSUB1000
110 X=28:Y=19:X1=X:Y1=Y
120 FLOOD=27
130 C=0:D=0
180 GOTO500
199 REM **** BUILD ****
200 K=K+1:SHOOT
210 IFK=1THENPLOT31,19,"e"
211 IFK=2THENPLOT32,19,"f"
212 IFK=3THENPLOT33,19,"g"
213 IFK=4THENPLOT34,19,"h"
214 IFK=5THENPLOT31,18,"i"
215 IFK=6THENPLOT32,18,"j"
216 IFK=7THENPLOT33,18,"k"
217 IFK=8THENPLOT34,18,"l":GOTO230
220 A=0:RETURN
230 RESTORE:FORN=1TO12:READP:MUSIC3,4,P,10:MUSIC2,2,P,10
231 MUSIC1,1,P,9:PLAY7,0,5,1000
232 WAIT20:PLAY7,0,4,1000:WAIT5
233 NEXTN:WAIT100:PLAY0,0,0,0
235 GOSUB3000:WAIT100
240 PLOT11,3,CHR$(6)+CHR$(10)+"WELL DONE"
241 PLOT11,4,CHR$(1)+CHR$(10)+"WELL DONE"
242 LG=LG+100
243 DF=DF-20:DA=DA+.02:T=0:A=0:K=0
245 PLOT3,7,CHR$(12)+"STAND BY FOR ANOTHER SCREEN":WAIT300:GOTO100
299 REM **** STRUCK ****
300 ZAP:PLAY0,0,0,0:FORZ=13TON:PLOTL1,Z," ":NEXTZ
310 M=M-1:PLOT15+M,9," ":IFM=0THEN610
315 X=28:C=0:D=0
320 GOTO550
499 REM ***** LOOP *****
500 REPEAT:T=T+1
510 PLOTX,Y,CHR$(112+D)
515 IFX=8ANDC=0THENPING:C=1
517 IFX=28ANDC=1THENC=0:LG=LG+1:PLOT7,9,STR$(LG):A=A+1
518 IFRND(1)>.05+DATHEN550
520 L1=INT(RND(1)*11)+12
530 FORN=13TO19:IFSCRN(L1,N)<>32THEN300
540 PLOTL1,N,"s":PLAY0,0,0,0:NEXTN:FORN=13TO19:PLOTL1,N," ":NEXTN
550 P=PEEK(520)
551 IFP=172ANDX>6THENX=X-1:D=0
553 IFP=188ANDX<28THENX=X+1:D=1
570 PLOTX1,Y1," ":X1=X:Y1=Y
580 IFT=DFTHENFLOOD=FLOOD-1:PLOT0,FLOOD,20:T=0
590 IFA=1THENGOSUB200
600 UNTILFLOOD=20
610 EXPLODE:PLOT13,3,CHR$(14)+"GAME OVER"
620 PLOT13,4,CHR$(14)+"GAME OVER"
630 IFLG>HITHENHI=LG:PLOT10,6,"A NEW HIGH SCORE!"
640 PLOT10,8,"ANOTHER GAME (Y/N)?"
650 REPEAT:GETA$:UNTILA$="Y"ORA$="N"
660 IFA$="Y"THEN95
670 IFA$="N"THENPOKE618,3:ZAP:END
1000 REM **** SCREEN *****
1010 PAPER0:INK7:CLS
1020 PLOT0,9,17:FORF=20TO26:PLOT0,F,18:NEXTF
1030 PLOT11,12,7:PLOT23,12,0'CLOUD
1040 FORF=17TO18:PLOT0,F,2:PLOT5,F,7:NEXTF:PLOT0,19,5:PLOT5,19,7'WOOD
1050 PLOT1,17,"abab":PLOT1,18,"abab":PLOT1,19,"cdcd"
1055 PLOT29,18,1
1060 PLOT29,19,CHR$(3)+"r"
1080 PLOT12,12,"mnnnnnnnnno"
```

# HS ARK




## by Christopher Hardy

It ain't easy being the one righteous man in a sinful world. And now the wrath of Jehovah descends on the good and the evil alike. The only hope is to build a great ark. To do this, Noah has to make frequent trips to the wood to collect huge amounts of timber. Only trouble is that The Lord isn't being particularly supportive towards the project, and keeps on sending down his thunderbolts, seemingly at random, although His ways are mysterious and there's doubtless some reason behind it all. One way or another, dodge the lightning, collect the wood, build the ark, survive the Deluge, and maybe you'll get a chance to try again.

Controls:
Use Cursor left and right to move left and right.

```
1090 PLOT11,11,CHR$(7)+"abababababb"
1100 PLOT2,9,"LOGS=":PLOT25,9,"HISCORE=
"
1105 PLOT33,9,STR$(HI)
1110 FORN=1TOM:PLOT14+N,9,"p":NEXTN
1190 RETURN
2000 REM **** GRAPHICS ****
2010 FORN=1TO26:READZ:G=46080+(8*Z)
2020 FORF=0TO7:READD:POKEG+F,D
2030 NEXTF,N
2050 DATA97,0,6,15,15,31,63,61,30
2060 DATA98,16,56,60,62,54,47,62,60
2070 DATA99,15,5,3,1,1,1,3,63
2080 DATA100,52,40,48,32,32,32,48,63
2090 DATA101,16,31,8,15,4,3,1,0
2095 DATA102,33,63,8,63,33,63,2,63
2100 DATA103,2,63,16,63,2,63,4,63
2110 DATA104,9,63,18,62,12,56,8,48
2115 DATA105,0,0,0,0,32,48,56,63
2120 DATA106,0,0,15,31,16,21,20,63
2130 DATA107,0,0,62,63,1,21,1,63
2140 DATA108,0,0,0,0,0,1,3,63
2150 DATA109,63,62,29,29,11,15,3,1
2160 DATA110,63,63,59,59,55,46,63,51
2170 DATA111,63,61,61,43,46,30,60,48
2180 DATA112,24,28,44,60,46,46,46,46
2190 DATA113,6,14,13,15,29,29,29,29
2200 DATA114,63,41,57,41,57,41,57,41
2210 DATA115,4,8,20,34,34,6,5,9
2220 DATA116,48,16,16,25,14,14,10,10
2230 DATA117,0,0,52,30,15,15,9,9
2240 DATA118,0,4,12,4,6,14,14,29
2250 DATA119,0,24,9,15,15,17,9,2
2260 DATA120,0,0,12,4,8,16,18,12
2270 DATA121,12,12,31,63,47,31,15,9
2280 DATA122,14,1,13,18,12,30,30,18
2300 RETURN
3000 REM **** ANIMALS ****
3005 PLOT34,19," ":PING
3010 FORN=1TO7:FORZ=37TO34STEP-1
3020 PLOTZ,19,CHR$(115+N)
3030 PLAY0,0,0,0:WAIT20
3040 PLOTZ,19," ":NEXTZ
3050 WAIT20:NEXTN
3060 WAIT50:PLOT34,19,"h":SHOOT
3070 RETURN
5000 REM *** INSTRUCTIONS ***
5010 PAPER0:INK6:CLS
5020 FORF=1TO7:PRINT:NEXTF
5030 PLOT10,3,CHR$(10)+CHR$(1)+"Noahs A
rk"
5040 PLOT10,4,CHR$(10)+CHR$(3)+"Noahs A
rk"
5050 PRINT:PRINT"The wrath of God is up
on you!"
5060 PRINT"You as Noah,must run to the
wood,"
5070 PRINT"gather logs and return to yo
ur yard"
5080 PRINT"where you can build your ark
."
5090 PRINT:PRINT"Unfortunately your tas
k is made more"
5100 PRINT"difficult by random flashes
of"
5110 PRINT"lightning,which God in his f
renzy"
5120 PRINT"hurls down indiscriminately!
"
5130 PRINT"You have five lives-lost eac
h time"
5140 PRINT"you are struck by lightning.
"
5150 PRINT:PRINT"Each time you complete
 a screen"
5160 PRINT"the storm gets heavier-with
all that"
5170 PRINT"entails!!"
5175 PRINT:PRINT"Use left and right cur
sor keys."
5180 PLOT1,25,"Press any key to start.G
ood Luck!"
5190 GETA$:PING:RETURN
22115 DATA105,0,51,18,18,18,51,2,62
```

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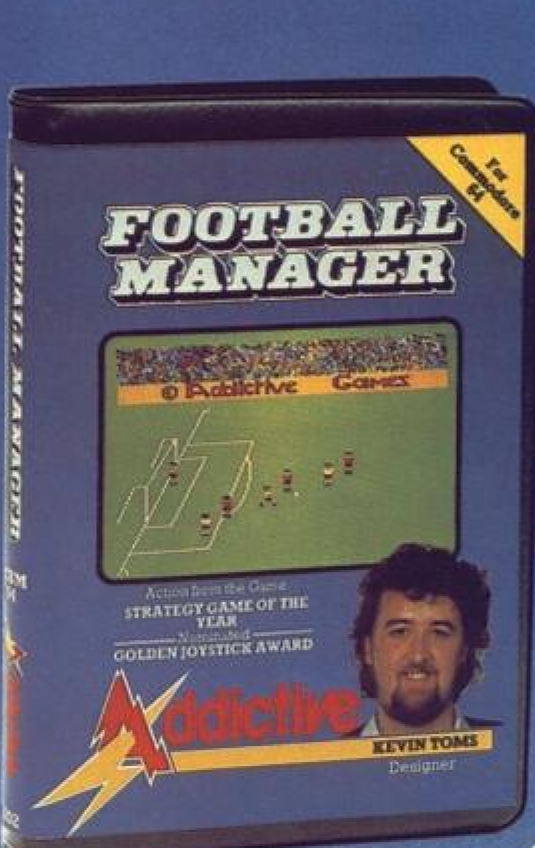


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# FORSYTH SAGA

## DAY OF THE HACKER

***The Fourth Protocol* is best-selling thriller-writer FREDDY FORSYTH's newest inter-smash hit. Now his devious and tense world of spies, counter-spies and briefcase-sized portable nuclear weapons has gone all pixelloid. NICKY XKLUNA reports . . .**

'THE AMERICAN market has convinced us that interactive fiction is where it's at' explained Jim Cochrane — unlikely syntax indeed from Frederick Forsyth's very English and distinguished-looking editor.

The essential element of any computer game is an idea. Hutchinsons (the publisher) had used lateral thinking — and got one. They decided to create software from their existing titles. Of their many fiction authors, 'F.F. was the most obvious choice,' explained Jim. Not only that, but the reclusive svengali of suspense was 'willing to tolerate the idea. He saw it as a new medium for his work. So we went ahead.' Does this mean that 'F.F.' is computerphile? 'No.' Says Jim. 'But his children are, so he may well soon be.'

'We wanted a game whose calibre would match that of the book,' added Hutchinsons MD Doug Fox. 'It must appeal to all ages, and require logical thinking rather than jargon. We didn't want it to come with a wad of literature, so it must also be immediately accessible.'

Hutchinsons have big plans for *The Fourth Protocol*. It will be out on disc for the Commodore and Macintosh with the American market in mind. For those alien to British idiosyncrasy, there'll be a glossary so that they can look up oddities like 'The SAS' as they come to them.

Doug Fox has no doubts about the popularity of a game based on a Forsyth novel. 'Our first priority was to find one person who could oversee the design.' In fact he found two.

John Lambshead and Gordon Patterson are daytime marine biologists. They met eight years ago when taken into the same batch of recruits. John was editor of *The Gamer*, and Gordon a collector of miniature soldiers. After discovering their mutual interest, they designed several board and role-playing games together. Their first electronic product was *Legend* from Century. *The Fourth Protocol* was started in September, the first draft just having been given FF's approval.

But how did they even begin to translate FF's great 50 page tome into a game? 'We didn't want simply to translate the book into a game. If we'd stuck entirely to FF's story, there'd have been no surprises. We've created the same basic plot and atmosphere, but situations will be different.'

How was it structured?

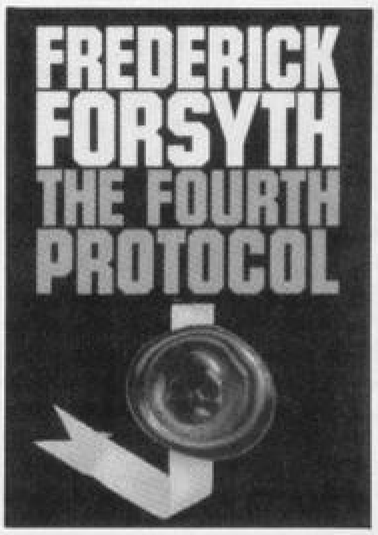
'Basically, long periods of intellectual activity interspersed with short periods of violence! We've divided the game into three parts — and three loads. Roughly 'Hunt the Traitor,' 'Find the Bomb', and 'Arcade Action'. The first section sees John Preston, of the Civil Service, trying to find a top level leak.'

The John Preston in the novel is a bit of an anti-hero. Dowdy and depressed, he's a meritocrat rather than a member of the Magic Circle. Did they intend to convey this in the game?

'Oh yes. We've tried to emulate the claustrophobic world of M15 as much as possible. Your quest will be impeded by your superiors and there's a 'prestige meter' to assess how much weight you're pulling. John will have certain unavoidable tasks which will accumulate on a stacking system — so...no shirking! You'll have sixty days to find the leak (each day equals two minutes in real time). Again, the book won't help you, as we've decided on a random mole.

'You'll be able to use the computer — er...as a computer. That is, M15's Central Intelligence computer. You can also store files and make telephone calls.'

The next load, or 'Find the Bomb' is a special game. You move from screen to screen looking for bomb components and picking up clues. The parallel book section [again, reading it won't help] starts with



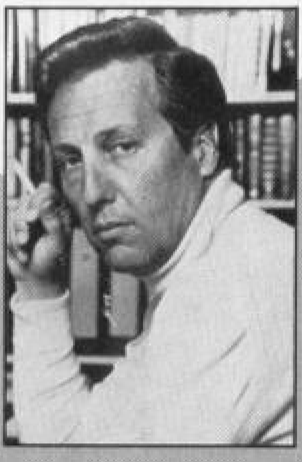

Preston being given a horizontal 'promotion' to a less effectual position in Ports and Aeroports. Meanwhile, Petrofsky, number one Russian 'illegal', is assembling an A-Bomb, the composite parts of which are being smuggled in by assorted courriers. You have the use of Intelligence services including the Watchers [surveillance artists]. Petrofsky [known to the service as 'Chummy'] is able to communicate clandestinely with Mother Russia using a series of 'one time pads'.

Our team have used FF's detail to their advantage. Every soft copy of *The Fourth Protocol* will have a code-breaker matrix. This will be engineered so that it is virtually impossible to photocopy. 'We'll be making life harder for pirates', explains John.

By the time you've made it to the final section, you'll have located Chummy with the bomb. Section two will have given you the codes you need to diffuse it. But. The bomb is guarded by kamikaze Russians, and you're working against the clock. Using the SAS Regiment, you must storm the bastion. Then you're in for some full-blooded arcade action. It seems that every genre has been plundered in order to make *The Interactive Fourth Protocol!*

'Actually, our biggest problem has been trying to avoid having a D notice slapped on the game as soon as it comes out! Both of us have ended thinking like Intelligence operatives and have come across certain information that we just can't use — like the real location of Intelligence Headquarters. Tnere are some real characters entwined in the fiction — so we have to be careful.

'After all, we are Civil Servants', says John. 'And we don't want to end up on the Falklands'!



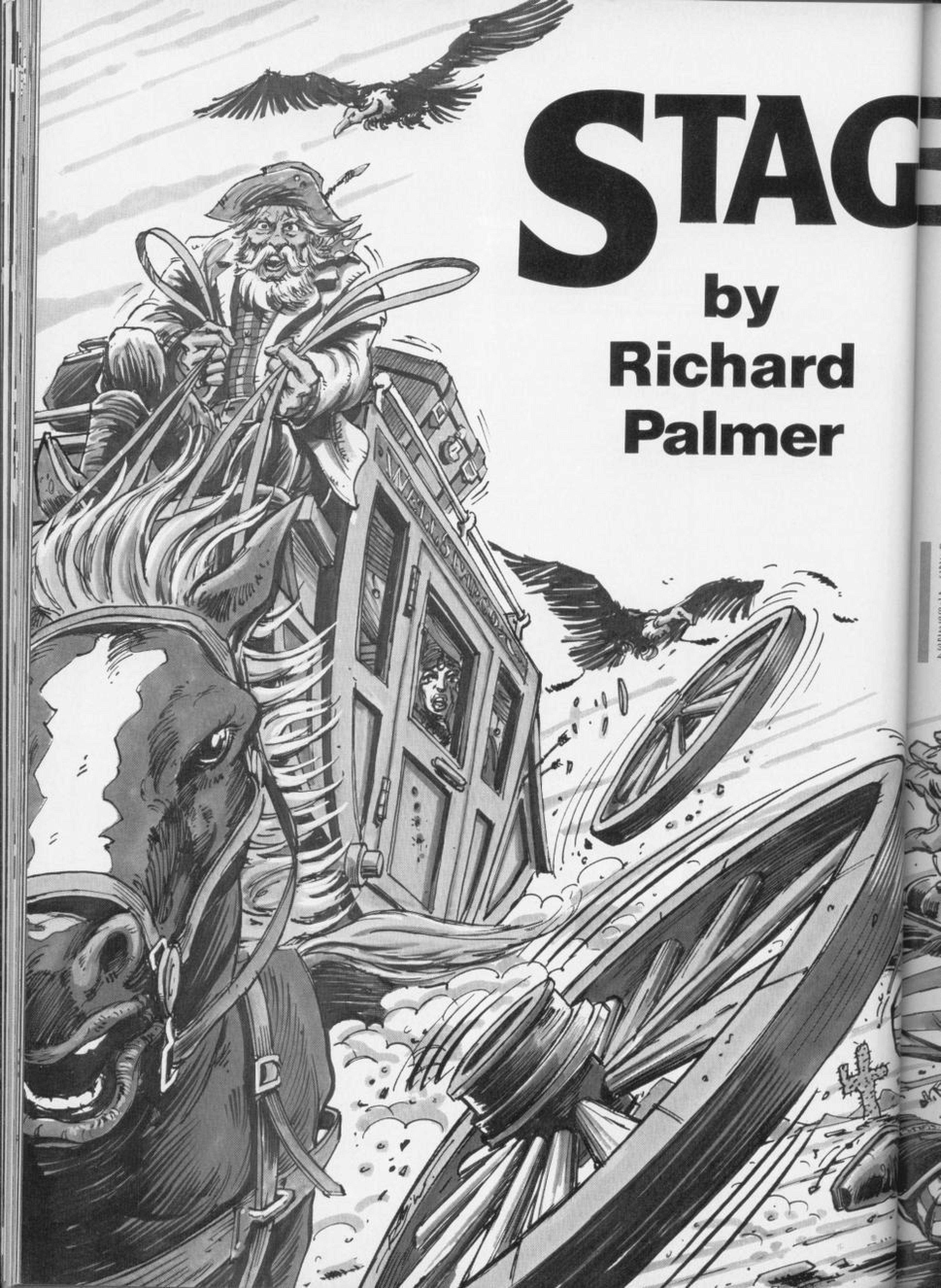






# STAG

## by Richard Palmer



# ECOACH

Pesky buzzards! As if it ain't bad enough coping with a wrecked stagecoach, this here winged varmint's hangin' around lookin' to dine on cowboy meat. If they'd only build those coaches like they used to, but no sirree, the Deadwood Stage is a rolling around every which way. So catch them wheels, says the trail boss, but don't let them run you over, and above all watch that buzzard.

**Controls:**
**Use joystick to move right and left. Fire button to jump when moving.**

```
0 PRINT"■■SETTING GRAPHICS"
1 POKE52,56:POKE56,56:CLR:Q=0
2 POKE56334,0:POKE1,35
3 FORZ=0TO4095:POKE12288+Z,PEEK(53248+Z)
:NEXTZ
4 POKE1,39:POKE56334,1
7 READA:IFA=-1THEN9
8 POKE14336+Q,A:Q=Q+1:GOTO7
9 FORN=14500TO14600:POKEN,0:NEXT
10 FORN=12288TO12350:READA:POKEN,A:NEXT
20 FORN=12352TO12414:READA:POKEN,A:NEXT
30 FORN=12416TO12478:READA:POKEN,A:NEXT
40 FORN=12480TO12542:READA:POKEN,A:NEXT
50 FORN=12544TO12606:READA:POKEN,A:NEXT
60 FORN=12608TO12670:READA:POKEN,A:NEXT
70 FORN=12672TO12734:READA:POKEN,A:NEXT
80 FORN=12736TO12798:READA:POKEN,A:NEXT
90 FORN=12800TO12862:READA:POKEN,A:NEXT
100 FORN=12864TO12926:READA:POKEN,A:NEXT
110 FORN=12928TO12990:READA:POKEN,A:NEXT
120 FORN=12992TO13054:READA:POKEN,A:NEXT
130 FORN=13056TO13118:READA:POKEN,A:NEXT
140 FORN=13120TO13182:READA:POKEN,A:NEXT
150 FORN=13184TO13246:READA:POKEN,A:NEXT
160 FORN=13248TO13310:READA:POKEN,A:NEXT
170 FORN=13312TO13374:READA:POKEN,A:NEXT
180 FORN=13376TO13438:READA:POKEN,A:NEXT
190 FORN=13440TO13502:READA:POKEN,A:NEXT
200 FORN=13504TO13566:READA:POKEN,A:NEXT
210 FORN=13568TO13630:READA:POKEN,A:NEXT
211 PRINT"■■■■■■"
212 PRINT"■
     CB"
213 PRINT"
CBCDDB"
214 PRINT"                                 C
DD@DDDB"
215 PRINT"                 A            AACD
@DD@DDDB"
216 PRINT"                C@B          CGDDDD
@DD@DDDGBA"
217 PRINT"□AAACGGBACBACGDDDGBCBACBCD@DDD
DDDDDD@@@DD"
218 PRINT"□DDDDDDDD@DDDDDDDDDDDDDDDDDDDD
DDDDDDDDDDD"
219 PRINT"□G@G@G@G@G@G@G@G@G@G@G@G@G@G@G
G@G@G@G@G@G@"
221 PRINT"□G@G@G@G@G@G@G@G@G@G@G@G@G@G@G
@G@G@G@G@G@"
222 PRINT"□G@G@G@G@G@G@G@G@G@G@G@G@G@G@G
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223 PRINT"□G@G@G@G@G@G@G@G@G@G@G@G@G@G@G
@G@G@G@G@G@"
224 PRINT"□G@G@G@G@G@G@G@G@G@G@G@G@G@G@G
@G@G@G@G@G@"
225 PRINT"□G@G@G@G@G@G@G@G@G@G@G@G@G@G@G
@G@G@G@G@G@"
226 PRINT"□G@G@G@G@G@G@G@G@G@G@G@G@G@G@G
@G@G@G@G@G@"
232 PRINT"□EFEFEFEFEFEFEFEFEFEFEFEFEFEFEFE
FEFEFEFEFEF"
240 DI=0:CLR:PRINT"■"
256 POKE53272,31:POKE53280,0:POKE53281,3
257 POKE2040,207
258 V=53248:POKEV+21,15:X=25:C=150:H=140
:L=255:M=255:P=0
259 I=192:MH=194:SW=196:W=198:B=200:S=20
2:CF=203:CB=205:RC=207:LC=209
260 RX=INT(X/256):LX=X-RX*256:POKEV+23,0
:POKEV+29,0
270 POKEV+30,0:IFPEEK(V+30)=5THEN840
280 POKEV+30,0:IFPEEK(V+30)=3THEN840
290 POKEV,X:POKEV+1,150:POKEV+28,1:POKEV
+39,1:POKEV+38,0:POKEV+37,4
300 POKEV+2,C:POKEV+3,H:POKE2041,B:POKEV
+40,0
310 POKEV+4,L:POKEV+5,154:POKE2042,W:POK
EV+41,7
320 POKEV+6,255:POKEV+7,150:POKE2043,212
:POKEV+42,5
330 IFPEEK(56320)=123THENX=X-3:POKE2040,
LC
340 IFPEEK(56320)=119THENX=X+3:POKE2040,
RC
350 IFPEEK(56320)=103THEN500
360 IFPEEK(V+30)=9THENX=25:P=P+1:PRINT"
1";
370 IFX>255THENX=255
```



## STAGECOACH for CBM 64

# STAGECOACH

Continued from page 93



```
380 IFP=4THEN2000
390 L=L-3:IFL<25THENL=255
400 IFX<25THENX=25
410 LC=LC+1:IFLC>210THENLC=209
420 RC=RC+1:IFRC>208THENRC=207
430 W=W+1:IFW>199THENW=198
440 B=B+1:IFB>201THENB=200
450 POKEV+30,0:IFPEEK(V+30)=5THEN840
460 POKEV+30,0:IFPEEK(V+30)=3THEN840
470 C=C+3:IFC>255THENC=25
480 H=H-3:IFH<110THENH=140
490 GOTO260
500 Y=150
510 FORK=0TO12
520 POKEV+30,0:IFPEEK(V+30)=5THEN840
530 POKEV+30,0:IFPEEK(V+30)=3THEN840
540 POKEV,X:POKEV+1,Y:POKEV+4,L:POKEV+2
,C:POKEV+3,H
550 POKE2040,RC:POKE2041,B:POKE2042,W
560 RC=RC+1:IFRC>208THENRC=207
570 W=W+1:IFW>199THENW=198
580 B=B+1:IFB>201THENB=200
590 L=L-3:IFL<25THENL=255
600 Y=Y-2
610 X=X+2:IFX>255THENX=255
620 H=H-3:IFH<110THENH=140
630 C=C+3:IFC>255THENC=25
640 POKEV+30,0:IFPEEK(V+30)=5THEN840
650 POKEV+30,0:IFPEEK(V+30)=3THEN840
660 NEXTK
670 FORK=0TO12
680 POKEV,X:POKEV+1,Y:POKEV+4,L:POKEV+2,
C:POKEV+3,H
690 POKE2040,RC:POKE2041,B:POKE2042,W
700 POKEV+30,0:IFPEEK(V+30)=5THEN840
710 POKEV+30,0:IFPEEK(V+30)=3THEN840
720 RC=RC+1:IFRC>208THENRC=207
730 W=W+1:IFW>199THENW=198
740 B=B+1:IFB>201THENB=200
750 L=L-3:IFL<25THENL=255
760 Y=Y+2
770 X=X+2:IFX>255THENX=255
780 H=H-3:IFH<110THENH=140
790 C=C+3:IFC>255THENC=25
800 POKEV+30,0:IFPEEK(V+30)=5THEN840
810 POKEV+30,0:IFPEEK(V+30)=3THEN840
820 NEXTK
830 GOTO260
840 POKE2040,211:K=0:POKEV+28,0:POKEV+39
,0
845 DI=DI+1:IFDI=3THEN9000
850 S=54272
860 POKES+24,15
870 FORN=0TO10STEP+5
880 POKES+4,0:POKES+4,17:POKES+11,0:POKE
S+11,33:POKES+18,0:POKES+18,65
890 POKES+16,255:POKES+17,10:POKES+19,9:
POKES+20,0
900 POKES+8,N:POKES+1,N+10:POKES+15,N+15
910 NEXTN
920 FORJ=0TO200:NEXT
930 K=K+1
940 IFK=4THEN960
950 GOTO870
960 FORN=200TO0STEP-5
970 POKE54273,N:POKE54280,N:POKE54287,N
980 NEXTN
990 M=200
1000 IFX<CTHENFORN=CTOXSTEP-3
1010 IFX>CTHENFORN=CTOXSTEP3
1020 POKEV+2,N:POKE2041,M
1030 M=M+1:IFM>201THENM=200
1040 FORJ=0TO80:NEXT
1050 NEXTN
1060 M=200
1070 FORN=HTO140
1080 POKEV+3,N:POKE2041,M
1090 M=M+1:IFM>201THENM=200
1100 FORJ=0TO80:NEXT
1110 NEXTN
1120 M=200
1130 FORN=140TO0STEP-2
1140 POKEV+3,N:POKE2041,M:POKEV+1,N+10
1150 M=M+1:IFM>201THENM=200
1160 FORJ=0TO80:NEXT
1170 NEXTN:POKEV+21,0
1180 FORN=0TO15:POKEV+N,0:NEXT:POKEV+21,
0
1185 PRINT"■■          "
1200 GOTO256
2000 POKE53272,21
2001 PRINT"■■WELL DONE! GET READY FOR NE
XT LEVEL"
2010 FORN=0TO6000:NEXT
2020 POKE52,48:POKE56,48:CLR
3000 V=53248:I=192:CF=203:CB=205:CR=207:
CL=209:PRINT"■"
3001 POKE53280,0:POKE53281,7
3010 IX=150:IA=60:IB=120:IC=180:ID=255:X
=25:Y=230
3020 POKEV+21,255:POKEV+28,1:POKEV+37,4:
POKEV+38,0:POKEV+39,1
3030 POKEV+40,0:POKEV+41,0:POKEV+42,0:PO
KEV+43,0:POKEV+44,0:POKEV+45,0
3040 POKEV+46,9:POKE2047,202:POKEV+23,12
8:POKEV+29,128
3050 POKE2041,I:POKE2042,I:POKE2043,I:PO
KE2044,I:POKE2045,I:POKE2046,I
3060 POKEV,X:POKEV+1,Y:POKEV+2,IX:POKEV+
3,IA:POKEV+4,IX:POKEV+5,IB
3070 POKEV+6,IX:POKEV+7,IC:POKEV+8,ID:PO
KEV+9,IA:POKEV+10,ID:POKEV+11,IB
3080 POKEV+12,ID:POKEV+13,IC:POKEV+14,25
5:POKEV+15,50
3090 IFPEEK(56320)=126THENY=Y-5:POKE2040
,CB
3100 IFPEEK(56320)=125THENY=Y+5:POKE2040
,CF
3110 IFPEEK(56320)=123THENX=X-5:POKE2040
,CL
3120 IFPEEK(56320)=119THENX=X+5:POKE2040
,CR
3130 POKEV+30,0:IFPEEK(V+30)=3THEN6000
3140 POKEV+30,0:IFPEEK(V+30)=5THEN6000
3150 POKEV+30,0:IFPEEK(V+30)=9THEN6000
3160 POKEV+30,0:IFPEEK(V+30)=17THEN6000
3170 POKEV+30,0:IFPEEK(V+30)=33THEN6000
3180 POKEV+30,0:IFPEEK(V+30)=129THEN7000
3190 I=I+1:IFI>193THENI=192
3200 CF=CF+1:IFCF>204THENCF=203
3210 CB=CB+1:IFCB>206THENCB=205
3220 CR=CR+1:IFCR>208THENCR=207
3230 CL=CL+1:IFCL>210THENCL=209
3240 IFX<25THENX=25
3250 IFX>255THENX=255
3260 IFY<50THENY=50
3270 IFY>230THENY=230
3280 IX=IX-3:IFIX<25THENIX=150
3290 ID=ID-3:IFID<150THENID=255
4000 GOTO3050
6000 S=54272:K=0:POKES+24,15
6010 FORN=100TO10STEP-5:POKES+4,0:POKES+
5,40:POKES+18,0
6020 POKES+4,17:POKES+1,N:POKES+18,33:PO
KES+15,N+10:NEXT
6030 K=K+1:IFK>4THEN9000
6040 GOTO6010
7000 CLR:V=53248:POKEV+21,3:POKEV+28,0:P
OKEV+39,0:POKEV+40,9
7005 FORN=0TO15:POKEV+N,0:NEXT:POKEV+23,
3:POKEV+29,3
7010 MH=194:SW=196:X=206:C=255
7020 POKEV,X:POKEV+1,150:POKEV+2,C:POKEV
+3,150
7030 POKE2040,MH:POKE2041,SW
7040 X=X-2:IFX<25THEN7200
7050 C=C-2
7060 MH=MH+1:IFMH>195THENMH=194
7070 SW=SW+1:IFSW>197THENSW=196
7080 FORN=0TO100:NEXT
7090 GOTO7020
7200 PRINT"■■WELL DONE! YOU SAVED THE ST
AGE COACH"
7210 PRINT"■■ANOTHER GO?(Y/N)"
7220 INPUTA$
7221 IFA$="Y"THENRUN211
7230 IFA$="N"THENEND
7240 IFA$<>"Y"THEN7220
7250 IFA$<>"N"THEN7220
7260 GOTO7220
9000 POKEV+21,0:POKE53272,21:PRINT"■■YOU
R SKINNED":GOTO7210
15010 DATA255,221,127,223,255,119,253,22
3
15020 DATA0,0,0,0,0,32,116,223
15030 DATA128,192,224,224,240,248,252,25
4
15040 DATA1,3,15,31,63,63,127,255
15050 DATA255,255,255,255,255,255,255,25
5
15060 DATA255,63,15,7,7,3,1,1
15070 DATA254,248,224,224,192,192,128,0
15080 DATA95,247,191,251,191,255,246,255
15090 DATA254,124,16,0,0,0,0,0
15100 DATA60,102,231,153,231,102,60
15110 DATA0,128,224,224,240,224,128,0
15120 DATA3,60,102,90,74,102,60,192,-1
20010 DATA0,0,164,64,5,80,255,251,166,67
,133,216,1,136,224,1,178,116,1,160
20020 DATA106,1,152,160,0,201,48,0,102,8
0,55,200,0,24,100,0,8,54,0,4,52,0,4
20030 DATA106,0,9,208,0,23,160,0,43,128,
0,81,192,0,80,248,1,224,0
20050 DATA0,0,168,32,5,82,127,251,164,32
,13,216,0,24,224,0,50,106,0,96,116,0,216
20060 DATA160,0,105,80,0,54,73,0,24,38,0
,137,164,0,67,34,1,254,33,0,128,32,0,0,3
2
20070 DATA0,5,192,0,3,128,0,3,192,0,3,32
,0,15,0
20090 DATA0,15,254,0,0,160,0,64,96,0,96,
224,1,225,224,62,115,96,126,126
20100 DATA96,127,244,96,15,62,145,60,95,
142,4,143,190,3,7,126,0,6,254,0
20110 DATA2,254,0,3,249,0,6,5,0,10,6,0,1
8,10,0,19,146,0,16,132,0,48,24
20130 DATA0,15,254,0,0,160,0,64,96,0,96,
224,1,225,224,62,99,96,126,126
20140 DATA96,127,244,96,15,124,145,20,12
7,190,2,95,126,1,142,246,0,7,110,0
20150 DATA3,172,0,3,60,0,20,132,0,34,10,
0,67,145,0,128,17,0,0,34,0,0,4
20170 DATA0,15,224,0,58,96,1,255,248,1,8
5,84,7,191,234,5,84,182,6,180
20180 DATA170,5,84,182,254,180,170,170,9
5,245,85,191,107,44,31,5,27,238,251,20
20190 DATA149,36,8,138,34,8,138,34,15,25
1,254,8,138,34,8,138,34,4,145,36,3,224
20200 DATA248
20220 DATA0,15,224,0,58,96,1,255,248,1,8
5,84,7,191,234,5,84,182,6,180
20230 DATA170,5,84,182,254,180,170,170,9
5,245,85,191,107,44,31,5,27,238,251,20
20240 DATA21,4,10,42,138,9,74,82,8,138,3
4,9,74,82,10,42,138,4,17,4,3,224,248
20260 DATA0,0,0,0,0,0,0,0,0,0,254,0,3,17
,128,4,16,64,4,16,64,8,16,32,8,16,32,15
20270 DATA255,224,8,16,32,8,16,32,4,16,6
4,4,16,64,3,17,128,0,254,0,0,0,0,0
20280 DATA0,0,0,0,0,0,0,0,0,0
20300 DATA0,0,0,0,0,0,0,0,0,0,254,0,3,1,
128,5,1,64,4,130,64,8,68,32,8,40,32,8
20310 DATA16,32,8,40,32,8,68,32,4,130,64
,5,1,64,3,1,128,0,254,0,0,0,0,0
20320 DATA0,0,0,0,0,0,0,0,0,0
20340 DATA0,0,0,0,0,0,0,0,0,0,0,0,240,
0,63,255,224,255,39,240,255,255,252
20350 DATA253,141,252,224,112,28,64,136,
8,1,4,0,2,2,0,2,2,0,10,130,128,10,82,64
20360 DATA0,0,0,0,0,0,0,0,0,0,0,0,0,0
20380 DATA0,0,0,112,0,112,248,0,248,252,
1,248,254,251,248,255,255,248,207,39
20390 DATA152,143,255,136,1,140,0,0,112,
0,0,136,0,1,4,0,2,2,0,2,2,0,10,130
20400 DATA128,10,82,64,0,0,0,0,0,0,0,0,0
,0,0,0,0,0,0
20420 DATA0,15,224,0,58,96,1,255,248,1,8
5,84,7,191,234,5,84,182,6,180
20430 DATA170,5,84,182,254,180,170,170,9
5,245,85,191,107,45,95,117,26,191,235,21
20440 DATA95,214,10,170,172,7,255,248,1,
33,32,0,192,192,0,0,0,0,0,0,0,0,0
20460 DATA0,0,0,0,63,0,0,255,192,2,170,1
60,63,255,255,3,119,112,0,213,192,0,63,0
20470 DATA0,42,0,0,106,64,1,37,64,1,42,0
,1,63,0,0,35,0,0,35,0,0,35,0,0,32,0
20480 DATA0,48,0,0,48,0,0,0,0,0,0,0
20500 DATA0,0,0,0,63,0,0,255,192,2,170,1
60,63,255,255,3,119,112,0,213,192,0,63,0
20510 DATA0,42,0,0,106,0,0,82,16,0,42,16
,0,63,0,0,50,0,0,50,0,0,50,0,0,50,0,0,3
0
20520 DATA0,3,0,0,0,0,0,0,0
20540 DATA0,0,0,0,63,0,0,255,192,2,170,1
60,63,255,255,3,255,240,0,213,192,0,63,0
20550 DATA0,42,0,0,106,80,0,106,16,0,42,
16,0,63,0,0,35,0,0,35,0,0,35,0,0,32,0,0
20560 DATA48,0,0,48,0,0,0,0,0,0,0
20580 DATA0,0,0,0,63,0,0,255,192,2,170,1
60,63,255,255,3,255,240,0,213,192,0,63,0
20590 DATA0,42,0,1,106,64,1,42,64,0,42,0
,0,63,0,0,50,0,0,50,0,0,50,0,0,50,0,0
20600 DATA3,0,0,3,0,0,0,0,0,0,0
20620 DATA0,0,0,0,63,0,0,255,192,2,170,1
60,63,255,255,3,87,112,0,213,192,0,63,0
20630 DATA0,35,0,0,101,0,1,41,64,1,42,80
,1,63,16,0,14,0,0,12,128,0,12,32
20640 DATA0,48,32,0,192,32,0,240,48,0,0,
0,0,0,0
20660 DATA0,0,0,0,63,0,0,255,192,2,170,1
60,63,255,255,3,87,112,0,213,192,0,63,0
20670 DATA0,35,0,0,22,64,0,82,20,1,106,0
,1,63,0,0,12,0,0,35,0,0,32,192
20680 DATA2,128,192,2,0,192,2,0,240,0,0,
0,0,0,0
20700 DATA0,0,0,0,63,0,0,255,192,2,170,1
60,63,255,255,3,117,112,0,213,192,0,63,0
20710 DATA0,35,0,0,22,64,0,90,16,1,106,1
5,1,63,0,0,12,0,0,35,0,0,131,0
20720 DATA0,128,192,0,128,48,2,128,240,0
,0,0,0,0,0
20740 DATA0,0,0,0,63,0,0,255,192,2,170,1
60,63,255,255,3,117,112,0,213,192,0,63,0
20750 DATA0,102,0,1,101,0,5,41,64,4,42,8
0,0,63,16,0,12,0,0,50,0,0,50,0
20760 DATA0,192,128,0,192,32,15,0,160,0,
0,0,0,0,0
20780 DATA0,0,0,0,0,0,0,0,0,0,0,0,0,56,0
,1,125,0,6,92,64,12,92,32,14,56,32,7
20790 DATA128,64,3,253,192,62,186,96,12,
130,96,12,124,96,20,108,160,16,108,32
20800 DATA0,68,0,0,68,0,0,68,0,0,170,0,0
,204,0
20820 DATA0,64,0,5,160,0,3,192,128,3,64,
96,7,226,208,2,193,240,3,195,96,7,111
20830 DATA228,67,255,128,53,251,64,121,2
33,0,108,253,0,62,188,0,91,238,0,15,252
20840 DATA0,23,124,0,3,237,0,5,254,0,0,2
22,0,1,246,0,3,255,0
20850 DATA0,23,124,0,3,237,0,5,254,0,0,2
22,0,1,246,0,3,255,0

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```
0 POKE36878,5:GOTO5000
1 PRINT"":PRINT"         SKI-SLOPE
BY STEPHEN BUDDEN":D=0:F=0
2 PRINT"Z=LEFT  X=RIGHT":PRINT"GAME
 1,2 OR 3"
3 GETA$:IFA$="1"THEN7
4 IFA$="2"THEN200
5 IFA$="3"THEN300
6 GOTO3
7 PRINT"IN THIS GAME THE TRACK   BECOM
ES THINNER .            HIT A KEY"
8 GETA$:IFA$=""THEN8
9 PRINT"":T=7:C$(0)="B      B":C$(1)="
B    B":C$(2)="B   B":O=75:F=1
10 A=7800:PRINTTAB(T)C$(0):H=H+1:IFH<20T
HEN10
15 X=INT(RND(1)*2)+5
20 Q=8164+INT(RND(1)*21):POKEQ,3:POKE368
77,0:GETA$:IFA$="Z"THEND=-1:POKE36877,25
3:CH=1
21 IFA$="X"THEND=1:POKE36877,252:CH=0
23 S=S+1:IFS>XTHEN100
24 POKEQ+(30720),5:POKEA,32:PRINTTAB(T)C
$(U):IFPEEK(A)<>32THEN1000
25 A=A+D:IFPEEK(A)<>32THEN1000
26 POKEA,CH:POKEA+(30720),0
27 IFT=14THENF=-1
28 IFT=0THENF=1
29 T=T+F:SC=SC+1
50 FORI=1TOO:NEXT
51 IFSC>300THENU=1
52 IFSC>600THENU=2
53 O=O-.1
60 GOTO20
100 S=0:R=INT(RND(1)*3+1):IFR=3THENF=-1:
GOTO15
101 IFR=1THENF=1:GOTO15
102 IFR=2THENF=0:GOTO15
200 PRINT"IN THIS GAME YOU MUST      A
VOIDE TREES              HIT A KEY
201 T=7:C$(0)="BC      B":C$(1)="B C
 B":C$(2)="B  C  B":O=80
202 :C$(3)="B   C B":C$(4)="B     C
B":C$(5)="B      B"
206 GETA$:IFA$=""THEN201
207 PRINT"":H=0
208 A=7800:PRINTTAB(T)C$(5):H=H+1:IFH<20
THEN208
209 X=INT(RND(1)*2)+5
210 Q=8164+INT(RND(1)*21):POKEQ,3:POKE36
877,0:GETA$:IFA$="Z"THEND=-1:POKE36877,2
53:CH=1
211 IFA$="X"THEND=1:POKE36877,252:CH=0
212 S=S+1:IFS>XTHEN250
213 POKEQ+(30720),5:POKEA,32:PRINTTAB(T)
C$(U):IFPEEK(A)<>32THEN1000
214 A=A+D:IFPEEK(A)<>32THEN1000
215 POKEA,CH:POKEA+(30720),0
216 IFT=0THENF=1
217 T=T+F:SC=SC+1:IFT>12THENF=-1
218 FORI=1TOO:NEXT
221 O=O-.1
222 U=INT(RND(1)*40)
223 IFU>4THENU=5
224 GOTO210
250 S=0:R=INT(RND(1)*3+1):IFR=3THENF=-1:
GOTO209
251 IFR=2THENF=0:GOTO209
252 IFR=1THENF=1:GOTO209
300 PRINT"IN HIS GAME YOU MUST  PICK U
P THE FLAGS IF  YOU MISS MORE THAN 10 TH
EN YOU";
301 PRINT" ARE OUT OF   THE RACE":C$(1)
="B  D  B":C$(2)="B  D  B":O=80
302 :C$(3)="B   D B":C$(4)="B     B"
:T=7:C$(0)="B D    B":PRINT"HIT A KE
Y"
306 GETA$:IFA$=""THEN306
307 PRINT""
308 A=7800:Q=1:PRINTTAB(T)C$(4):H=H+1:IF
H<20THEN308
309 X=INT(RND(1)*2)+5
310 Q=8164+INT(RND(1)*21):POKEQ,3:POKE36
877,0:GETA$:IFA$="Z"THEND=-1:POKE36877,2
53:CH=1
311 IFA$="X"THEND=1:POKE36877,252:CH=0
312 S=S+1:IFS>XTHEN350
313 POKEQ+(30720),5:POKEA,32:PRINTTAB(T)
C$(U):U=4:IFPEEK(A)=2THEN1000
314 A=A+D:IFPEEK(A)=2THEN1000
315 IFPEEK(A)=4THENSC=SC+10:Q=0:POKEA+2,
176:POKEA+1,177:FORZ=220TO240:POKE36876,
Z:NEXTZ
316 POKEA,CH:POKEA+(30720),0:IFT=14THENF
=-1
317 T=T+F:SC=SC+1:IFT=<2THENF=1
318 FORI=1TOO:NEXT:POKE36876,0
321 O=O-.1:U=4:W=W+1:IFW>22THENQ=0:E=E+1
322 IFQ=0THENQ=1:W=0:U=INT(RND(1)*4)
323 IFE>10THEN1000
324 GOTO310
350 S=0:R=INT(RND(1)*3+1):IFR=3THENF=-1:
GOTO309
351 IFR=2THENF=0:GOTO309
352 IFR=1THENF=1:GOTO309
1000 PRINT"SCORE="SC:POKE36877,0:POKEA
,5:PRINT"GAME OVER"
1001 R=INT(RND(1)*3):IFR=1THENY=1
1002 IFR=2THENY=-1
1004 IFR=0THENY=22
1005 POKEA,32:A=A+Y:POKEA,5:POKEA+(38400
-7680),0:FORI=1TO100:NEXT:J=J+1:IFJ<20TH
EN1001
```

# SLALOM SLOPE

from Stephen Budden

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***Controls:***

***Z: Left***
***X: Right***

```
1006 PRINT"▣ANOTHER GAME Y/N"
1007 GETR$:IFR$="Y"THENRUN
1008 IFR$="N"THENPRINT"▙":POKE36869,240:
END
1009 GOTO1007
5000 POKE36869,255:POKE52,28:POKE56,28:C
LR
5001 FORCC=7168TO7175
5002 READNN:IFNN<>-1THENPOKECC,NN:CC=CC+
1:GOTO5002
5003 DATA8,40,152,88,52,18,9,4:DATA16,20
,25,26,44,72,144,32
5004 DATA1,3,7,15,1,1,1,0:DATA24,60,90,1
53,60,90,153,24
5005 DATA4,12,28,60,4,4,4,63:DATA8,8,54,
8,8,8,8,8,8
5009 DATA-1
5010 FORPP=7424TO7431:POKEPP,0:NEXT
5020 GOTO1:
```



# GO NORSE, SOUTH, EAST OR CENTURIES...



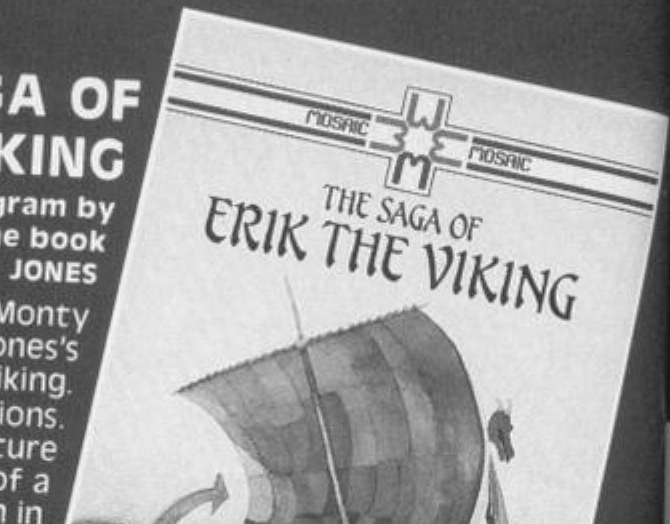

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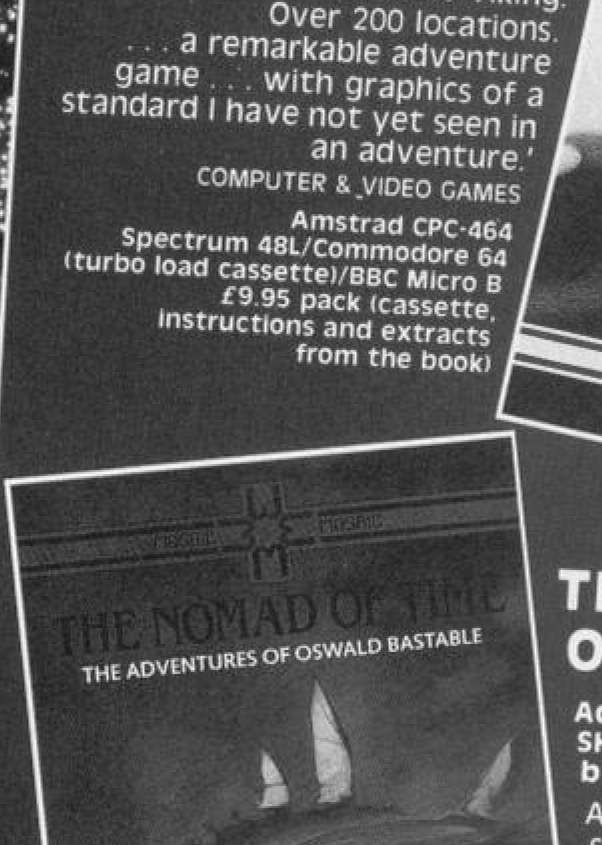



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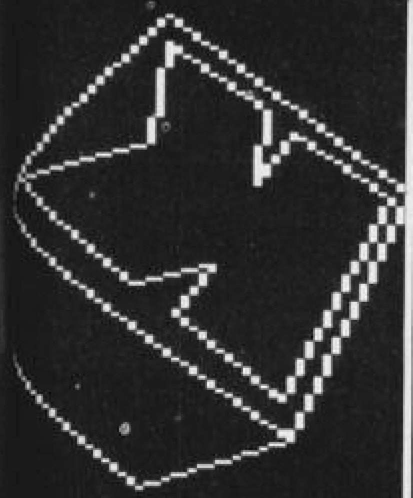
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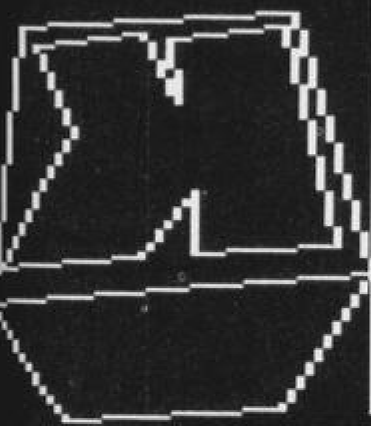
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BK

# HOW TO SELECT AND ERECT A VECTOR

## KIM ALDIS ponders the arcane secrets of the Third Dimension





A SHORT WHILE ago Acornsoft released *Aviator*. Even more recently they dropped a bombshell on an unsuspecting public in the form of *Elite*, the like of which has never been seen before. Both these games rely heavily on the technique of vector graphics which has been around making pictures on computers since the world Go. In fact, in the beginning there *was* only vector graphics.

In mathematical terms a vector is defined as a direction and a length, sort of "the long and over there". In computer graphics they extend the idea to give it a starting position and draw a line along it. The great beauty of this is that it's very easy to manipulate by rotation, scaling (making it bigger or smaller), shifting and stretching.

*Aviator* and its like do things in three dimensions and although it's done in machine code to make it fast enough, the principle is the same as outlined here in BAIC.

First of all, to make life simple we'll consider two dimensions, X and Y.

Look at fig(1) and imagine the point P being rotated clockwise about the origin, O, through an angle theta to a point Pt. Then:—

(1) Xt = R* COS (alpha—theta)
SIN (alpha) = Y/ R
(2) Yt = R* SIN (alpha—theta)
COS (alpha) = X/ Y
From (1):—
Xt = R* (COS(aspha)* COS(theta)
+ SIN (alpha)* SIN (theta)
From (2):—
Yt = R* (SIN(alpha)* COS (theta)
— COS (alpha)* SIN (theta))

Slinging it all in a bucket and shaking it about a bit gives:—

Xt = X*COS(theta) + Y*SIN (theta)

YT = —X*SIN(theta) + Y*COS (theta)

From that, imagine a line drawing made from a whole series of points. If we want to rotate it, all we have to do is apply the above formulae to each point in turn in the order it was drawn and then rewdrew it. That's the theory, the practice is in prog (1).

The above equations are all very well in simple situations like this, but when we start getting into more complex transformations you can end up with numbers flying around like locusts in a paddy field. This is where "matrices" come in handy. Matrix algebra is a very powerful method of manipulating points in multi-dimensional space. At the moment, we're only concerned with two dimensions, later with three, but using these nifty little devices you can muck about in space with any number of dimensions. If you thought the fourth dimension was confined to sci-fi novels then think again, you can play with thirty or more, if you think you can do it and hold onto your marbles.

Expressed in matrix form the above equations look like this:—

(Xt, Yt) = (X,Y)* [COS (theta), — SIN (theta)]

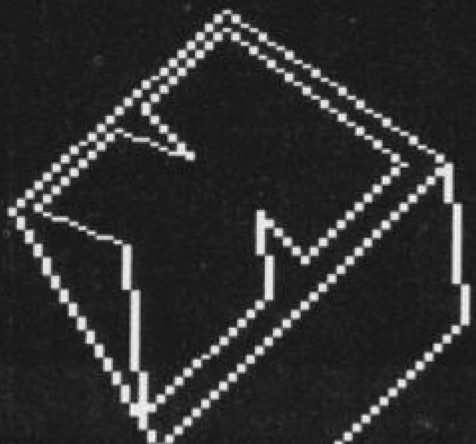
Which looks fairly nightmarish but comparing it with the equations for Xt and Yt above, it's fairly easy to see the general case:—

(X, Y)*[M1, M3]
[M2, M3]

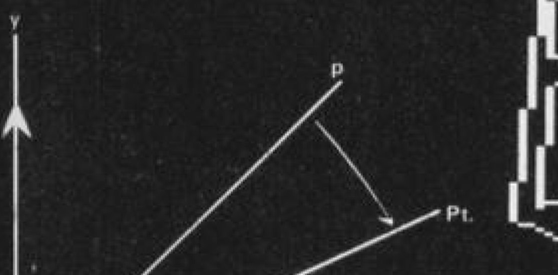
= (X*M1 + Y*M2
X*M3 + Y*M4)

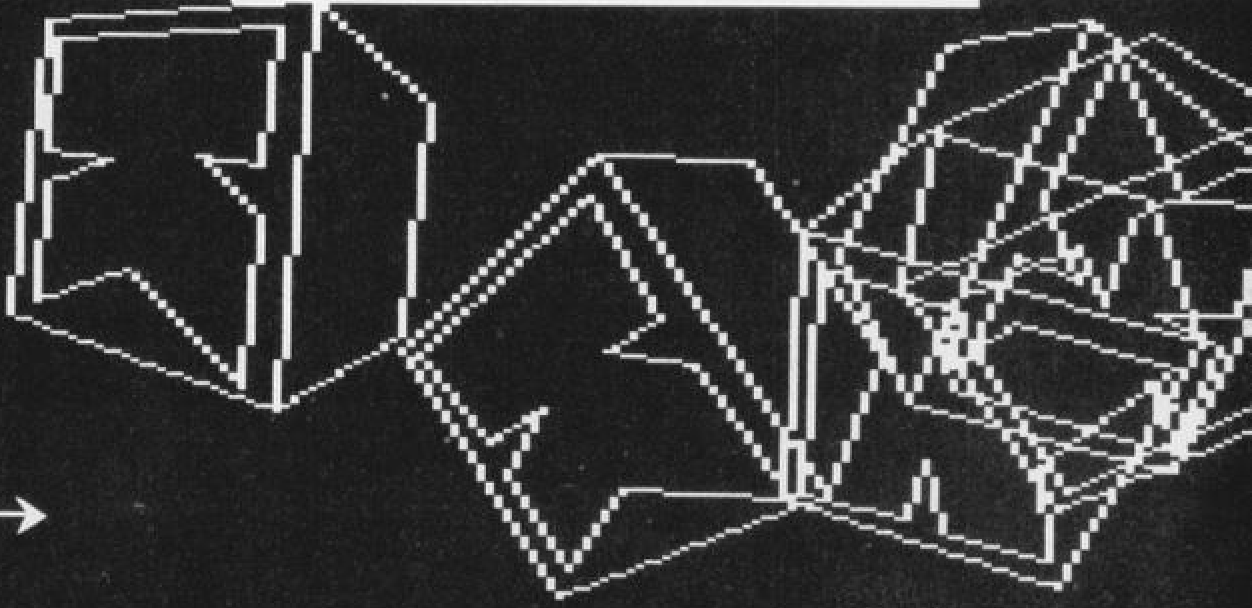
Having sorted that lot out, someone out there is probably thinking "Gosh! they look like arrays", or words to that effect. He'd be right, and it's one of the reasons why they're very nice things for computers to wrap their teeth round. The other is the fact that they can be "concatenated", in other words several can be multiplied together to be one giant transformation. In this way several operations can be performed at once.

Using the matrix notation we can start to think about other transformations. Namely scaling, reflection and shearing. Diag(2) gives a list of the matrices for these operations.



OVER PAGE



FROM PREVIOUS PAGE

# HOW TO SELECT AND

diag(2)

1)
Rotation (clockwise)
Rotation
(Anti-clockwise)

[COS(theta), −SIN(theta)]
[COS(theta), SIN(theta)]
[ SIN(theta), COS(theta)]
[−SIN(theta), COS(theta)]

2)
Scaling

[Sx,0]
[0−,Sy]

(3) Reflection (x axis)
[1,0]
[0,−1]
Reflection (y axis)
[−1,0]
[0,1]

4)

| X shear | Y shear |
|---|---|
| [1,0] | [1,Sy] |
| [Sx,1] | [0,0] |

Now all we need is a routine to perform all these ops. They're all different but because the matrix multiplication is always the same, we can use a single array, dumping whichever matrix we need into it just before the operation is performed and use a single procedure for the matrix multiplication (PROCmatmult in prog(2)). Each procedure for rotation, scaling, etc, can fill the array with its matrix and then call PROCmatmult to perform the multiplication. This keeps it simple and easy to keep tabs on.

This is all very well but you've probably noticed, in prog(1) that the rotation works around the origin and the drawing rotates about it like the hands of a clock.

The same is true of scaling, the distance from the origin is scaled as well, and the net result is a shift when it's probably not needed. Suppose it's required to do a rotation about a point on the drawing itself. Simple . . . just shift that point to the origin and all the other points on the drawing by the same amount, do your rotation and then shift it back to where it was.

Problem is, we don't, as yet have a shift routine. The reason for this is very simple, the coordinate system we're using can't do it. A system which can, though, is a homogeneous co-ordinate system, in which the point (x,y) becomes (x/r,y/r,r). For most purposes we can say r = 1 and avoid a lot of awkward division. The translate, or shift matrix now becomes:—

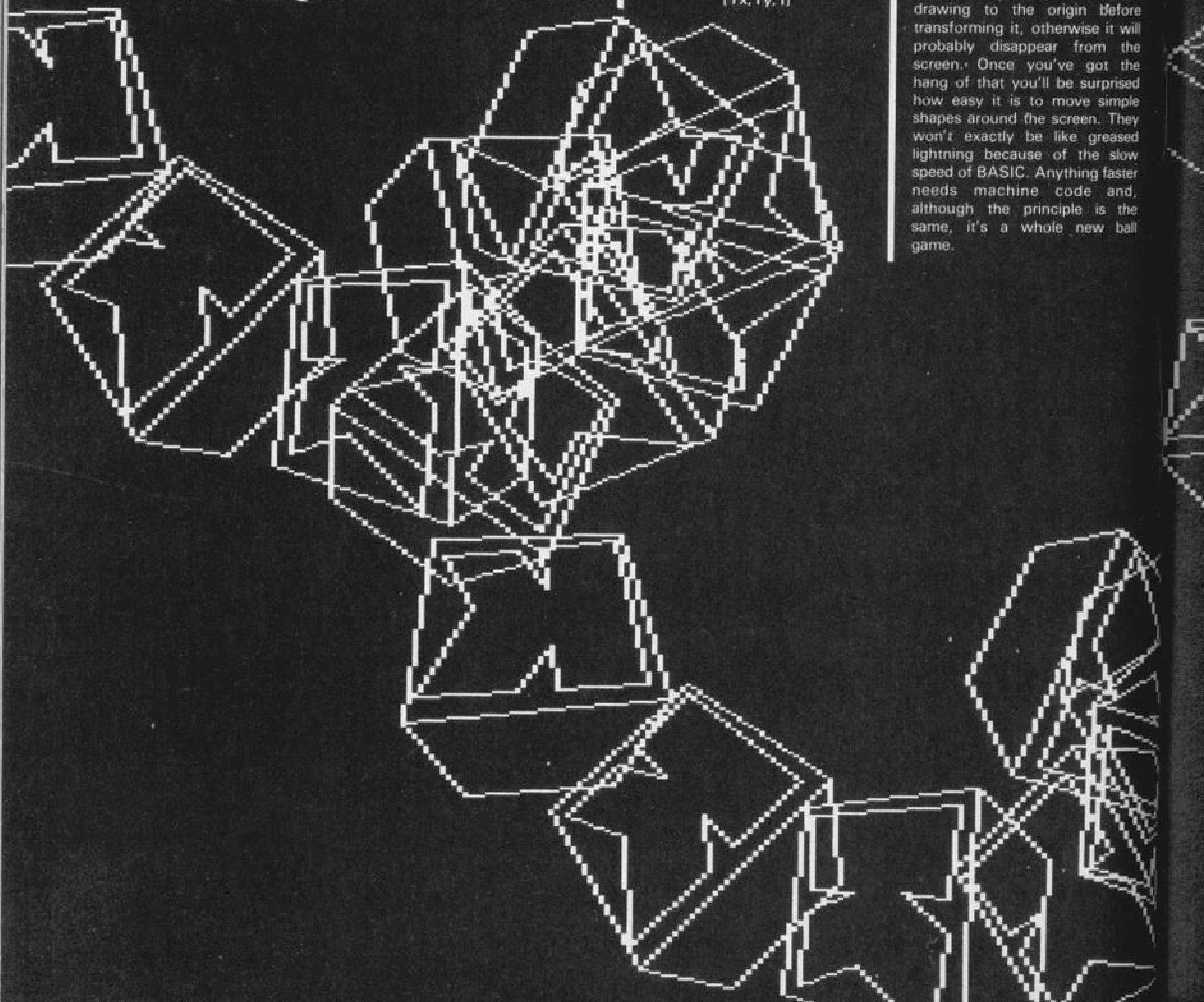
[1,0,0]
[0,1,0]
[Tx,Ty,1]

and all the previous ones can be exactly the same as in fig(2) except they have an extra row and column, all zero except the bottom right which is one. For example rotation clockwise becomes:—

[COS(theta),−SIN(theta),0]
[SIN(theta),COS(theta),0]
[0, 0, 1]

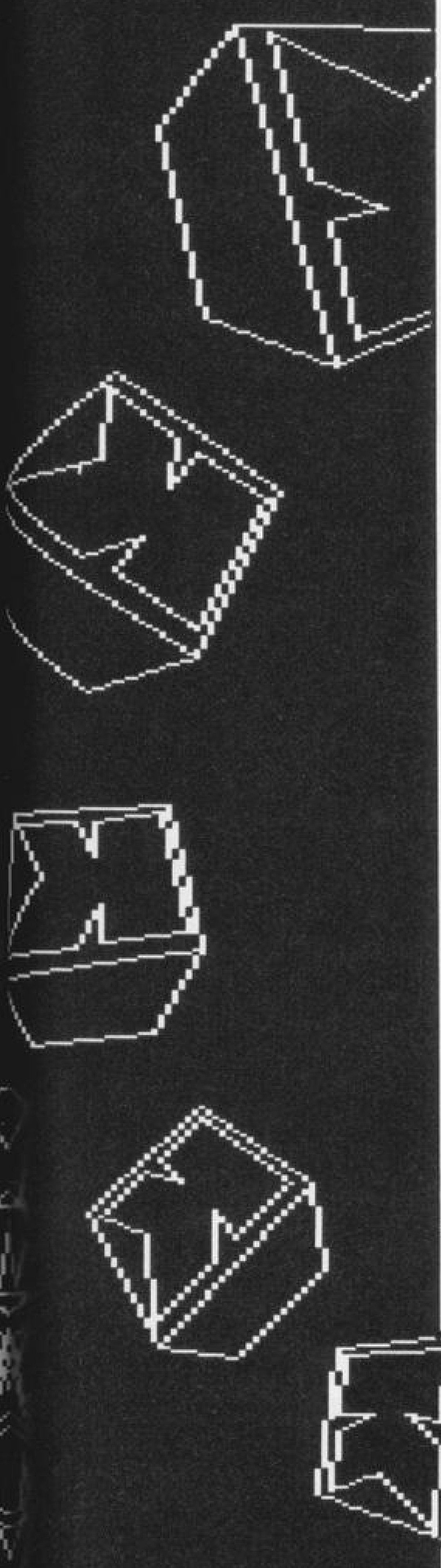
Now go ahead and try it out.

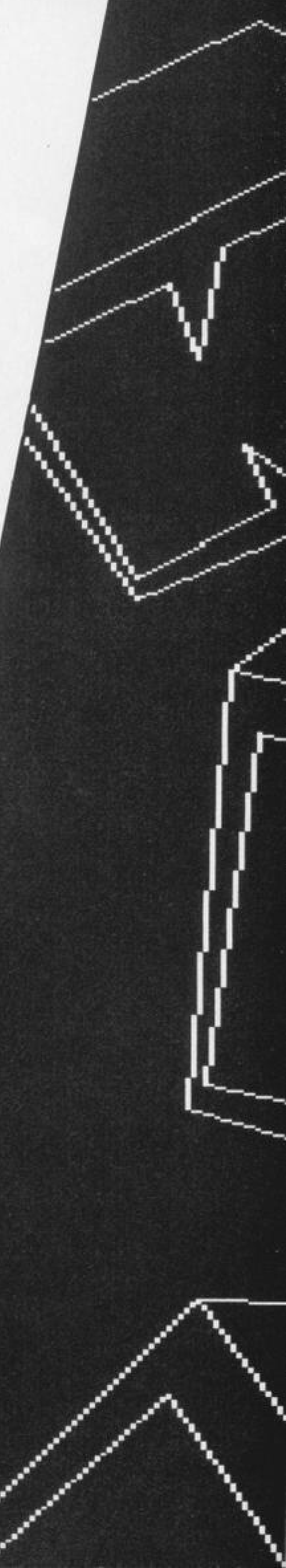
Programme three accepts a series of values from the keyboard and performs a transformation accordingly. It uses the EVAL statement, so you can input statements like COS(45) or whatever and see what happens. Start off doing shift ops and then try a few rotations and reflections. The ops will be additive so if you do one rotation of 45 degrees the next op you do will change that, rather than the original. Remember to shift the drawing to the origin before transforming it, otherwise it will probably disappear from the screen. Once you've got the hang of that you'll be surprised how easy it is to move simple shapes around the screen. They won't exactly be like greased lightning because of the slow speed of BASIC. Anything faster needs machine code and, although the principle is the same, it's a whole new ball game.

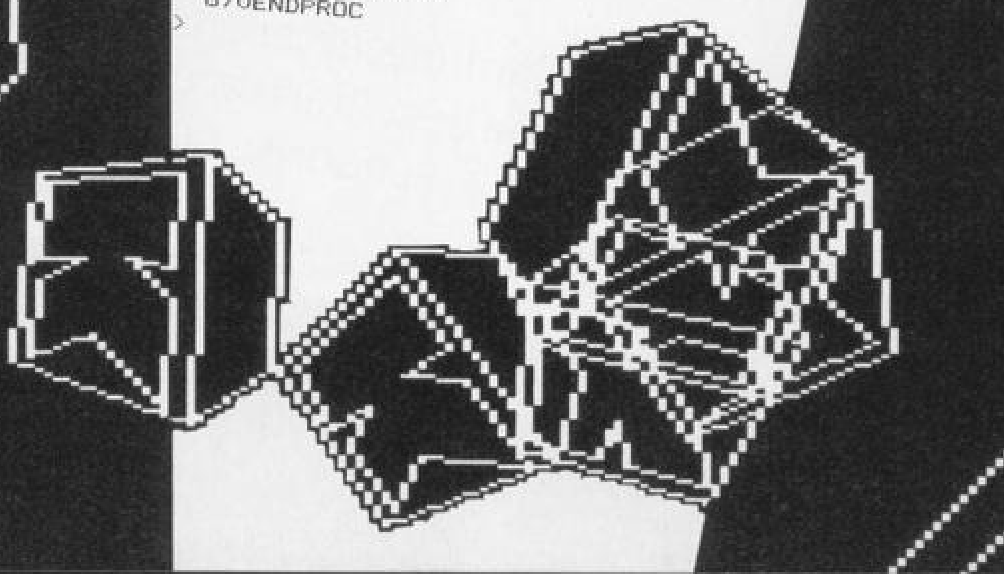


# D ERECT A VECTOR

```
10REM Vector Graphics
20REM Prog(3)
30
40DIM matrix$(9),matrix(9),coord(2,19
)
50MODE0
60
70REM____ Draw axes ____
80MOVE 0,1000:DRAW 0,0
90MOVE 1000,0:DRAW 0,0
100
110REM___ Read in coordinates for shap
e ___
120FOR I%=0 TO 19:READ coord(1,I%),coo
rd(2,I%):NEXT
130REPEAT
140PROCget_matrix
150
160REM___ Shape draw routine ___
170X%=coord(1,0):Y%=coord(2,0)
180PROCmatmult:MOVE X%,Y%
190coord(1,0)=X%:coord(2,0)=Y%:REM__Re
store transformed coords in array
200FOR I%=1 TO 11
210X%=coord(1,I%):Y%=coord(2,I%)
220PROCmatmult:DRAW X%,Y%
230coord(1,I%)=X%:coord(2,I%)=Y%
240NEXT
250X%=coord(1,12):Y%=coord(2,12)
260PROCmatmult:MOVE X%,Y%
270coord(1,12)=X%:coord(2,12)=Y%
280FOR I%=13 TO 19
290X%=coord(1,I%):Y%=coord(2,I%)
300PROCmatmult:DRAW X%,Y%
310coord(1,I%)=X%:coord(2,I%)=Y%
320NEXT
330UNTIL FALSE
340
350DATA 65,35, 115,50, 108,78, 130,53,
180,67
360DATA 154,102, 184,170, 112,152, 95,
116, 87,145
370DATA 22,129, 65,35
380DATA 6,139, 60,28, 190,58, 187,188,
6, 139
390DATA 35,206, 136,230, 187,188
400
410DEFPROCget_matrix
420A%=1
430PRINTTAB(0,1);"(Xt,Yt)=(X,Y)*";
440FOR J%=1 TO 3
450PRINTTAB(14)"[";SPC(25);"]"
500NEXT
510 A%=1
520FOR J%=1 TO 3
530FOR K%=1 TO 3
540INPUTTAB(K%*8+11,J%)matrix$(A%)
550matrix(A%)=EVAL(matrix$(A%))
560A%=A%+1
570NEXT
580NEXT
590ENDPROC
600
610DEFPROCmatmult
620REM___ Perform the matrix multiplic
ation ___
630Xt=0:Yt=0
640 Xt=Xt+X%*matrix(1)+Y%*matrix(4)+1*
matrix(7)
650 Yt=Yt+X%*matrix(2)+Y%*matrix(5)+1*
matrix(8)
660 X%=Xt:Y%=Yt
670ENDPROC
>
```







# What can we say?




We're overwhelmed. Though we should just add that with Atarisoft, you can now play Pole Position* on the Commodore 64, BBC and Spectrum computers, as well as on all Atari® systems. And you'll also find available other games such as Galaxian,* Robotron,† Moon Patrol† and Ms Pacman.

**POLE POSITION**

LOOK OUT FOR OTHER LEADING COMPUTER GAMES FROM ATARISOFT. PRICES START FROM £7.99 *TRADEMARK OF NAMCO. ®TM ARE TRADEMARKS OF ATARI CORP. †TRADEMARK OF WILLIAMS.

# IN THE NAME

*OK Kid, up against the wall and spread 'em while we read you your rights. Don't know your rights? Tch, tch, kid, you've got trouble comin' . . .*

By JOHN N



# OF THE LAW

IN C QUEST




## COMPUTER CONSUMPTION

WHEN YOU buy something from a retailer, in a shop or by mail order — be it a computer, peripherals or software (or, come to that, anything from onions to ocean-going yachts) — whether you realise it or not you're entering into a legal contract with the seller, with the law very much on your side.

For your part, you agree to pay the asking price, while the seller agrees, under the Sale of Goods Act 1979, that the goods are fit for their usual use, are of propert quality and are as described. Moreover, under the Misrepresentation Act 1967, anything he tells you about them has to to be true.

OK, so you walk into a shop and see this snazzy-looking computer with a sign saying "The new space-age Rubishi XYZ with stereo sound!" You ask the assistant if there are games available for it and, when he says there are, put your hard-earned readies on the counter and walk out with your cardboard box of electronic wizardry.

### ERRATIC

You get home, plug it in and nothing happens. Or happens erratically, or back to front or in Japanese or whatever. Right, the shop has broken its first promise. A computer is supposed to compute and when you buy something for a function, whether to eat it, sit on it, drive it or play *River Raid* on it, there's "an implied condition that the goods are reasonably fit for that purpose". *Reasonably* means that you can't expect as much computing from a VIC20 as an IBM, but if you told the shop what you wanted from a machine and the one they sell you doesn't do what you want, then again it's not "reasonably fit".

If it works alright but is scratched, buckled or otherwise shoddy when you open the box, or the lettering starts coming off the keys in the first week or anything else that doesn't impair the functioning (but *is* annoying), then the second promise has been broken, the "implied condition that the goods supplied are of merchantable quality". However, this doesn't apply "as regards defects specificaly brought to the buyer's attention" or "if the buyer examines the goods ... as regards defects which that examination ought to reveal".

Sometimes these promises will overlap. Say the inside of a machine is full of mouse droppings. Even if you had a butchers first, you wouldn't be able to tell, but it certainly wouldn't be of "merchantable quality". On the other hand it probably wouldn't work too well either.

If a shop assistant describes something, or it carries a sign or label, there is "an implied condition that the goods will correspond to that description". In other words goods must be what they say they are.

Apart from accurate descriptions, sales talk must be truthful. If your decision to buy something is influenced by information given you be the shop that turns out to be incorrect then it's been misrepresented. This applies if the shop acted innocently and to the best of their knowledge. However, this doesn't cover opinions, only statements of purported fact.

So there you are with your Rubishi which doesn't work, is falling apart, has mono sound and for which there are zero games available. What do you do about it? Easy — you take it straight back and complain.

Your first advantage is that the legal definition of acceptance is not that you've paid and taken the goods out of the shop. No siree, bob. Acceptance in law is either making it clear that you accept the goods as satisfactory, whatever that means, or have kept them for a reasonable time, whatever that means in spades. Either way, the faster you get to work, the better.

If you have not "accepted" the goods, i.e. you're back screaming within hours or days, then the shop must refund your money in full. If faults develop later, within weeks or months, then you'll probably have to accept damages. In real life most shops will either exchange faulty or unsatisfactory goods or give you credit, but neither of these remedies, even though they may be perfectly satisfactory to both parties, is recognised in law. The law says refund or damages, nothing else.

"Damages" are normally taken to mean the cost of repair, but the shop is in fact liable for any related

OVER PAGE

CONTINUED FROM P.105

loss of expense. Say some software gets wiped out when a machine crashes, or your telly gets blown up (or anything else directly related to a defect in the machine), then the shop, being in breach of contract, must make good. Moreover — something that few people realise — you are entitled to claim for inconvenience. So the shop is liable for your time, transport and trouble. One example: Atari's guarantee claims that you have to pay the cost of transportation, but this has no foundation in law.

If the shop tries to brush off your (verbal) complaint, your next step is to put it in writing, addressed to the highest managerial level. If you still don't get any joy, find out what trade association the shop belongs to and go to them.

Lastly, there's the Small Claims court. (You'll find an excellent run-down on how they work in *The Penguin Guide to the Law*.) The important things to remember are that even if you lose, you don't have to pay costs, and the whole thing has been made as accessible and do-it-yourself as possible, so it needn't cost you a penny and is by no means the daunting exercise it might sound.

## DEMONSTRATION

There are, however, some simple pre-emptive precautions. First, do your research so you know exactly what you want and why. Take a friend with you — an adult witness is invaluable if there are any arguments later. Make the shop set up the machine you're actually going to buy, not just the demonstration model, and check that everything's kosher. Responsible shops will do this anyway, more for their own benefit than yours. (As Lion House, who test everything before it leaves the shop, will tell you, they don't need the aggravation either.)

If you still run into problems, remember that everything we've told you is the straight goods, so don't let the shop tell you different. If they try and refer you to the manufacturer, it's not on. Your contract is with them, and they have to honour it. One important point though: the contract is only with the original purchaser, so if you're given a machine (or buy one second-hand) you either have to get your benefactor to deal with the shop or, under negligence laws, go direct to the manufacturer. Another example: Sinclair spell this out in their guarantee which is "not transferable".

However, under the Supply of Goods (Implied Terms) Act 1973 there *is* a general contract with the manufacturer. The golden rule here is, *never fill in a guarantee card*. Keep the shop receipt instead. Despite Acorn ("this guarantee shall only be effective if . . . mailed within 10 days of delivery") or Commodore ("should be forwarded within 28 days"), there is absolutely no requirement to do so. Though most say something like "this guarantee does not affect the purchaser's statutory rights", and it is in fact a criminal offence under the Unfair Contracts Act 1977 to try and limit such rights, by signing if you indicate that you accept the manufacturer's conditions, conceding a lot of legal ground. While you lose nothing at all by not signing.

Most guarantees undertake to replace or repair defective equipment within 12 months of purchase (though Acorn only give you six months). This sounds very nice of them, but alas, it's not up to the manufacturer to decide when his legal liability ends. The question a court would ask is, how long should a computer be reasonably expected to last? Interestingly, Commodore's 12-month guarantee also says that the 64 should give "many enjoyable years of trouble-free use". To me "many" is at least three and probably more, and a court would almost certainly take the same view. Obviously the more you pay the more you can expect and a BBC, for instance, can reasonably be expected to last longer than an Electron, but both should hold up for longer than six months.

Guarantees may, as with Acorn and Commodore's, state or imply that liability is limited to the actual hardware, but this ain't so. The maker is liable for related damages just as a shop is. Where both shops and manufacturers are on safe ground is when they disown machines that have been dropped, modified, defaced or otherwise abused. Lion House's best story is of someone who mounted a Spectrum on a wooden base, drilling in wood screws from underneath, and then complained that the machine didn't work!

When a machine goes in for repair, whether by a repair shop, the original dealer or the manufacturer, there's another contract, again with four promises. Three are fairly straightforward; the work will be carried out to a reasonable standard; the materials used will be of good quality and reasonably fit for use, and the work will be done as agreed.

The fourth is a bit trickier — that the repairer will take "reasonable care" of your goods. Attempts to exclude liability, like signs saying "goods left at customer's risk", are an offence under the Unfair Contracts Act. The only guarantee I've seen that does attempt to limit liability is Acorn's, which states that "the Company does not accept responsibility for any loss or damage during transit to or from the dealer or the Company". GPO nasties aside, the fact of the matter is that if you hand over a dud machine, you can legally expect to have a fully functioning one returned to you. Once it's out of your hands (and in the repairer's), it's the repairer's responsibility, except in the event of his being able to prove that he was not negligent.

What it all comes down to is that you have a lot of rights that nobody, but nobody, is going to tell you about. With some shops you'll have no trouble at all — with others, nothing but. And the same with manufacturers. What the hard-case mob hope is that you'll give up and let them get away with shafting. Hope we've given you enough to know how to fight back.

## COPYRIGHT

**UNLESS THIS is the very first computer mag you've ever read, you'll know that software publishers do a lot of worrying about "unauthorised reproduction" (in plain language, piracy) now estimated to cost the industry £10-£15 million a year.**

**They invest plenty of time and money in developing programs and their efforts are, in theory, protected by the Copyright Act 1956 and the Universal Copyright Convention, which most countries have signed.**

**Copyright covers any original work, "literary" or "artistic" (or both) into which the author (or authors) have put sufficient labour, skill or judgement clearly to differentiate it from any existing work.**



The Act forbids the reproduction, publication or adaptation of such work by any unauthorised person. Even though software is not specifically mentioned in the statutes, there is absolutely no doubt that the implied protection does exist, for it has been extensively tested in the courts. The only area of doubt is whether ROMs and EPROMs are covered by copyright or patent law.

No registration is necessary: all you have to do is dream up something new, commit it to paper, tape or disc, put © Joe/Jill Bloggs 1984 on it and hey presto! You too can start worrying about pirates. Unless you work for a software publisher, that is. Work carried out in the course of employment under a contract of service, written or implied, normally belongs to the employer. However ownership of copyright will depend on the conditions of employment as there are plenty of gradations between full-time salaried employees and commissioned freelancers. Freelancers usually retain copyright, but even that depends on the nature and wording of the commission. Programmers now have their own professional body, the Society of Software Authors (7 Meadway Court, Whalebone Lane South, Dagenham, Essex) which hopes to thrash out the problems involved in contracts and copyright.

The classic adventure game *Adventure*, aka *Adventures*, aka *Colossal Cave*, has never been copyrighted and thus is in what is called the Public Domain. This means that anybody can copy, publish or adapt it, but nobody can gain any legal rights over their version which can in turn be copied, published or adapted. However the 70-location endgame which Level 9 added to *their* implementation, *Colossal Adventure*, is clearly a work of labour, skill and judgement and thus copyright. So theoretically you're free to copy the first two thirds of it which only contain minor alterations, but not the last third.



## BOOTLEGGING

There are three distinct forms of piracy — individual, plagiarism and bootlegging. If you or I, God forbid, should make a copy of a program we'd be in breach of copyright just as we would be in taping a film off the telly or music from a record. But on this level it's really an ethical or moral question — how we personally feel about ripping people off — because, let's face it, there isn't much anybody can do about it. But the "software is overpriced" argument won't wash (though admittedly Atari's prices used to be a virtual incitement to piracy). The truth is that an awful lot of games and utilities are literally worthless (most 64 ones for a start) while some, particularly Spectrum's, are very reasonable for what you get. Ideally duff software shouldn't be published, but you avoid paying over the odds by using judgement.

Software houses see every illegal copy as a lost sale, which probably overstates the case somewhat, as it seems pretty obvious that a lot of schoolkids go in for obsessive collecting of games they'd never dream of buying, no matter what. But they also make wild copyright claims. Take a typical, and real, example: "Unauthorised copying, hiring, lending or sale and repurchase prohibited". A lot of this is just hot air, because once you've paid your money, software is your property and if you want to hire, lend or sell it, that's your privilege and the manufacturers can take a walk.

## COPYING

Plagiarism is the one that really causes the bad blood in the biz. This is when one software house adapts another's product and markets it under a different (though usually not very different) title. Law development costs equal big profits. This sharp practice is pretty widespread as you can tell from the number of clone games around, endless variations on *Pac-Man, Donkey Kong, Miner 2049er* or whatever. There have been several successful civil prosecutions for infringement of copyright, but the problem is demonstrating that one program is substantially identical to another. That "substantially" is an iffy word which brings it down to shading. Enough minor sub-routines and an idea pincher has a good chance of beating the rap.

The real crime is large-scale black market publications of other people's products, usually games, and it's in this area that software publishers want to see changes in the law. While Part 1 of the Copyright Act, the civil bit, works OK, part 2, the criminal sanctions, doesn't. The first criminal prosecution, brought by Crystal Software (now Design, Design) against Yorkshire Software, ended with the defendants being fined £40 with £50 costs. As Crystal estimated that Yorkshire cost them £40,000, this result was in their view a bit inadequate. Moreover, Crystal weren't even able to establish that software piracy was a criminal offence, because, boxing clever, they stuck to claiming infringement of their trade mark, X-Tal Basic. If Yorkshire had renamed it, even that wouldn't have worked.

## EVIDENCE

Microdeal, losers to Activision in a civil suit (*Pitfall* vs. *Cuthbert in the Jungle*), have succeeded in obtaining what's called an Anton Pillar order against a bootlegging operation in Lancashire. The idea of the order is that evidence of the alleged crime can be seized by the police before the accused get wind of the impending collar feeling and destroy it. Tapes, what tapes? But they still have to deal with the shortcomings of the Act.

FAST, the Federation Against Software Theft, has drafted a Bill that amends the Copyright Act so that it specifically covers software and provides the police with greater search powers and the courts with much harsher penalties (up to £10,000 fines and/or two years' imprisonment). A similar amendment was made in 1983 to cover video tapes. Nicholas Bethell MP introduced it under the 10 Minute Rule in July. The government has more or less promised to support such a Bill. But it will be a long time before it becomes law, no matter what.

FAST's biggest problem is that a lot of pirate versions are so good that they can't be told from the originals. So, in order for the police to be able to work the proposed changes in the law, software houses will have to come up with some way of branding their originals in ways that the priates can't copy. Otherwise proving theft will be virtually impossible.

## BOOTLEG SOFTWARE

Even a new law won't help with the most glaring example of software piracy, the Portugese company that is openly selling, and even advertising, bootleg software. There doesn't seem to be anything the (mainly British) victims can do about it. The law is on their side, OK, but international litigation would be slow, expensive and uncertain. All Vasco has to do is spin things out as long as possible, then do a runner with his ill-gotten escudos. His brother sets up under a different name and everybody's back where they started.

The answer to piracy seems to lie not so much in the application of the law, even amended (though that might help against the pros) as in the development of built-in security locks or add-on devices (dongles) that will make it impossible to copy programs. However, given the dynamic state of computer science, that's easier said than done. An American company recently produced a program called *Locksmith* which would copy any supposedly protected software. The only thing it couldn't copy was *Locksmith* itself. You guessed it — another company promptly came up with a prog that could! In theory an unbreakable security device already exists, Jim Lamont's famous program which the government claim is a threat to national security and have locked up.

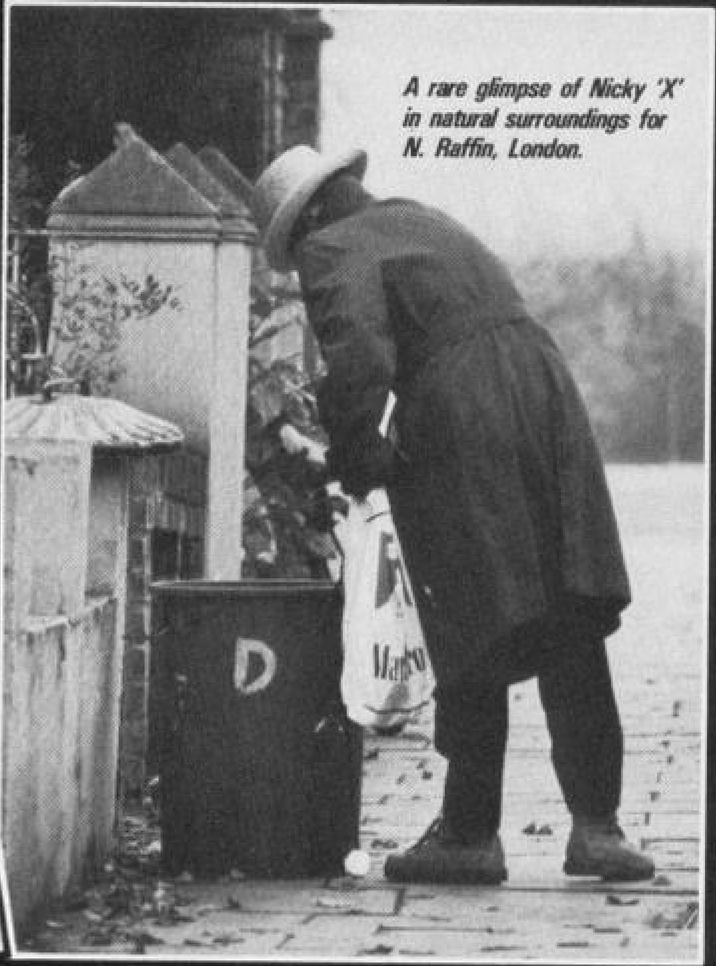
ERBASE LETTERBASE

# Letters to BIG K

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Scend your Scenario to . . .
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*A rare glimpse of Nicky 'X' in natural surroundings for N. Raffin, London.*

### DOPPELGANGER

I have written this review of *Motor Mania* in order to become a regular reviewer for Commodore 64 games.
**LEE STUBBS**
**Castle Vale, Birmingham**

I have written this review of *Motor Mania* in order to become a regular reviewer for Commodore 64 games.
**LEON DODD**
**Castle Vale, Birmingham**

**• An incredible demo of para-psychological powers — both applicants live in the same street, no less, and both have provided identical reviews of *Motor Mania*. Truly, the frontiers of science keep receding.**

### BIG KRYPTIC

Something has been worrying us here down under. What is the official definition of 'Hacker' and the numerous other linguistic oddities in BIG K? We do have our theories as to the meaning but are not absolutely sure. Could you publish a guide to British computer lingo?

Despite its cryptic language, BIG K is the best mag of its kind — and we get 99% of what's available down here. Keep up the bonza work!
**NICHOLAS MURRAY,**
**East Doncaster**
**Australia**

**• A Hacker is one who hacks. Hacking is performed on a computer via the telephone system and a device called a modem. This enables a hacker to 'boot up' (plug his equipment in), 'log on' (open a channel) and 'talk' (talk) with other hackers. British Hackers, please submit your electronic argot for Ozzy oscillation.**

**Meanwhile, Nick, I just happen to have a real live captive hacker here for your perusal . . . (P.S. What's 'bonza'?)**

### HACKER HAS HUMP

How unhappy I am that you do not take a more liberal view of hacking and hackers, nor write about them more! I am writing to protect hackers from future slandering. You MUST write more about The Art of Hacking (and Hackers).
**HONEY MONSTER,**
**Margate.**

**HACK THWACKER**
I like *B.C. Bill*. I relish the idea of bashing woman and dinosaurs over the head. Imagine have brought out some of the best games on the Spectrum. Let me tell Nicky Xikluna that his reviews are as informative as a melted loo seat that a cat's been sick on.
**EDWARD JOHN,**
**Wylam, North'd.**

### IDEOLOGUE

You don't like *B.C. Bill* just because you think it's sexist.
**J. GLEAT**
**Birmingham.**

**• You've both got hold of the wrong end of the — ahem — club, I'm afraid. It's *B.C. Bill*'s graphics and action that never fail to underwhelm me. The offence is not ideological.**

### BLUNT

Could you please tell me wher the Vic and 64's hi-res bit map starts.
**M. COX,**
**Hebbum**
**Tyne & Wear.**

**• Ah, Commodore Business Machines! Always it ees ze wittily obscure solution to a commonplace problem. And why bother making different machines mutually compatible? Such a sense of humour! Yes, the Vic and the 64 are totally different. The VIC 20 doesn't have bit-mapped graphics as such. Instead, you have to simulate high-resolution mode using redefinable characters. You fill the screen with 512 redefinable characters, and then adjust these to give the illusion of motion. this is not a fast procedure in BASIC and frankly I wouldn't bother unless you're doing it in assembler.**

**On the 64 high-resolution programming is also slow, but at least there's a true bit-mapped screen. This would normally reside at address 8192, but due to the VIC chip's memory paging system, you can relocate it almost anywhere. A complex affair in either case, and I'd recommend you to get hold of a more technical manual, such as Commodore's own *Programmer's Reference Manual*, if you really want to dive in deep. — F.F.**

### OUTRAGE

You've really done it this time. If your editor had any games sense, *Valhalla* would never have been included in *Lame Games*. It's the game of the year!
**DAVID SMART,**
**Dingwall,**
**Rosshire.**

# ETTERBASELET

## Edited by NICKY XIKLUNA

### GHOULBUSTER

Here's what to do for infinite lives in *Ghouls* on the BBC.

Press control and Break to reset the Beeb.

Type PAGE = &2200
(return)
LOAD "GHOULS2"
(return)

Load in the prog up to 2525FC. This part is called GHOULS2. When it has loaded, copy out the line until LI=4 and change it to LI=9999999.

Copy the rest of the line and press RETURN. Now type LIST 60. Change the line to:

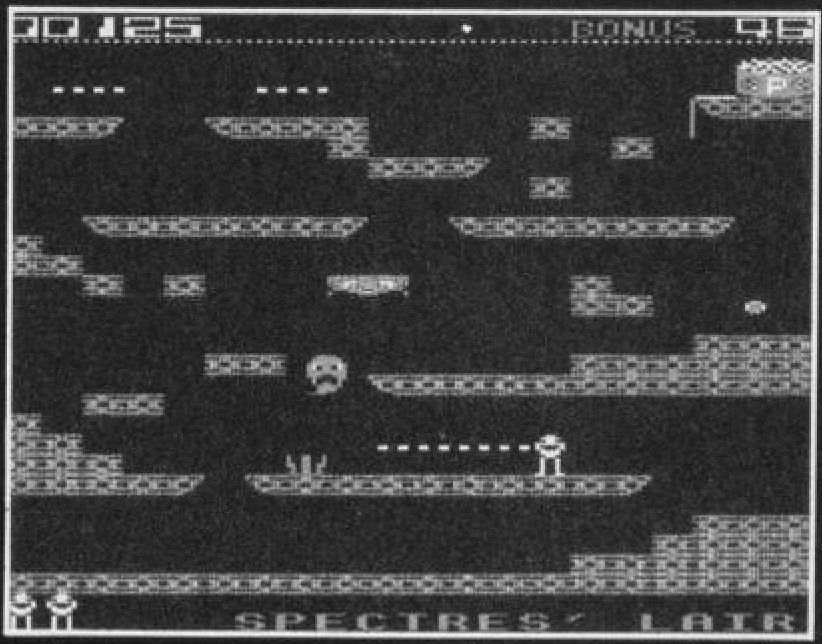
60 FOR F=0 TO 32 STEP 16:FOR . . . etc. Copy the rest of the line and return. Type: LIST 2055.

Copy the line out as far as 2055 NEXT and then return.

Type RUN (return).

Load in ??? which loads up to 18 18FF. That's all there is to it!

**GARETH WOODHAM,**
**Weymouth, Dorset.**




### SPECTRUM MINUS

The Spectrum + is too late. At £180 it is not good value. The only difference from the old Spectrum is the QL-style keyboard. (You can get a better keyboard for £50.) Sinclair has wired in some new keys — but these can lead to crashing problems anyway. If the keyboard is as lousy as the QL's, (especially that space bar) users will certainly be no better off!

The launch is a result of Sinclair's panic over new machines like the Amstrad.

**NEIL OLNER,**
**Doncaster,**
**S. Yorks.**

### LETTERHORN

Your letters page is too short, but thank God — no *Jet Set Willy* Pokes, and only one Piracy letter. I'm glad to see that you've changed the presentation of your review pages for the better — but I was dismayed to see that you had four reviews for the minor Dragon computer, and only six for the CBM 64!

Your picture of T. Tyler was very revealing. I agree with Tim O'Grady's letter saying that different computer owners should bury the hatchet. Why not bury it in a BBC keyboard!

P.S. Why *should* Ken Ward have a beard?

**MARK McSHEEHY,**
**Eastkilbride,**
**Glasgow.**

**● The beard? Just a hunch . . . (Yes, our picture of T.T. *was* very revealing. It was a picture of Nicky X.**

### ELECTRO-MAGNETIC NIGHTMARES (ETHEREAL CEREAL)

The trend for controlling mechanical and electrical devices with micro-processors may well end in tears. The problem is electro-magnetic pollution. All electronic equipment can be upset by electro-magnetic interference. For example, Stratford Theatre's computerised lighting system was recently competely immobilised by the Beeb's local low-power test transmissions.

The RAF are in the process of tightening the EMC standards. But no amount of shielding can protect from something like a nuclear explosion — which will cause transistors and chips to disappear in a puff of smoke literally.

The only way to protect your equipment is to enclose it in a metal (Faraday) cage.

**C. HALES,**
**Long Eaton,**
**Notts.**

**● Thanks for the info, 'C'. Now could you tell us how we go about protecting ourselves from those really dangerous radio waves — those that waft . . . PETER POWELL?**

### DRAG-OFF

I like your software reviews — except for one thing. There are rarely any for the Dragon. Even when there are, it's only one or two, compared to twenty or so for the Spectrum. Please can we have more Dragon software reviews?

**KEVIN REID,**
**East Lothian,**
**Scotland.**



### TRUE CONFESSIONS

Quite frankly, I'm getting sick of all the rivalry between software houses, each claiming that they're the best. I'd like to know what your favourite games really are.

**ALEX RURANSKI,**
**Broadstairs,**
**Kent.**

**● Funny you should ask that, 'cos we've just had this great idea for a feature entitled 'Games Reviewers Play . . .'**

### SUPERIOR POKE

In reply to Mr. A. Rahman's various 'pokes' to protect programs on Atari machines, (Issue 7), why not try this small program to disable the Atari's system reset?

```
5 POKE 2,52:POKE
3,185:POKE 9,2:TRAP 10000
10 GRAPHICS 18:POSITION
1,5:? 6;"press system
reset"
15 GOTO 15
10000 RUN
```

Put line 5 at the start of your program and line 10000 at the end.

**A.E. JONES,**
**Lichfield,**
**Staffordshire**

### EAT IT

I became very irate at David Parr's letter (Issue 8). He had the cheek to claim that 'no joystick means no chance of getting a good score.' I do not own a joystick, unlike David Parr who obviously has money to spend on frivolous pieces of junk, which are certainly no asset when playing *Sabre Wulf*.

I collected all the pieces of the amulet, found the Keeper and completed 91% of the game without a joystick. David Parr was wrong — and I don't mind if he blushes!

**ROBERT MIDDLEBROOK,**
**Wakefield,**
**West Yorkshire.**

### GENDER BENDER

Dear Nicky,

Are you a boy or a girl?

**N. RAFFIN,**
**London NW3.**

**● Yes.**

BUMPER 20 PAGE ISSUE
CHRISTMAS COMPETITION!

LOGIC 3

# Spectrum Club

**BRITAIN'S No.1 SOFTWARE CLUB**

WINTER ISSUE 1984/85

# WIN A MICRODRIVE




## Christmas Competition

**1st prize: ZX Microdrive & ZX Interface 1 (worth over £70)**

**2nd prize: Currah µSpeech Synthesizer (worth £29.90)**

**10 runner up prizes of free games software (each worth over £10)**

To Celebrate the Christmas season Logic 3 are running a grand Christmas Competition with a ZX Microdrive and Currah µSpeech Synthesizer as first and second prizes.

The ZX Microdrive, complete with Interface 1, is undoubtably the ultimate Spectrum add-on allowing programs and data to be quickly saved and recalled. The Currch µSpeech is both powerful, featuring an infinite vocabulary, and easy to use.

To enter the competition carefully read the reviews in this catalogue then answer the questions in the Quiz and mail your answers to Logic 3. All entries received before 31st January will be eligible for the competition. Prizes will be awarded to the first 12 correct entries drawn.

Here's your chance to win these desirable Spectrum add-ons, but don't leave it too late, make sure, your entry reaches Logic 3 before the closing date!

## CLUB SUCCESS

**The Logic 3 Spectrum Club was launched in July, 1984 and has been an outstanding success. Already more than half-way to its target of 10,000 members in twelve months, the continuous growth of the club has kept Logic 3's staff working seven days a week just to keep up with demand.**

**Tony Toller, Logic 3's managing director and coordinator of the Club, explains its success as follows: "With other clubs once a person has joined there is no more reason for the club to try to support its members who each month *have* to purchase a certain number of products from a short list. Our Club is different. Members have no obligation to purchase *any* products from the club so the pressure is on us to choose only the best quality products and offer the best possible prices. We also take a lot of pride in publishing independent reviews on all the products we carry and if we do not like something about a product we are not afraid so say so." Tony Toller's policy of offering Club members a real service rather than just running "yet another mail order business" is winning new members all the time. But size by itself is not the main objective "as we grow so we will be able to improve our service to members still further and perhaps, one day, develop the club catalogue into a proper magazine." With the Christmas edition of the catalogue already running at a bumber 20 pages containing reviews of more than 180 products that day ...me quite soon!**

LOGIC 3

## Spectrum Club

The Logic 3 Spectrum Club has something for everyone: regular reviews, excellent savings on all the latest top quality games and educational software, and discounts on hardware.

NEW MEMBERS INTRODUCTORY OFFER

Join Logic 3 Spectrum Club *within 60 days* and benefit from our new members introductory offer to purchase our "Software Specials" at a huge discount.

MEMBERSHIP IS ONLY £3.00 PER YEAR

(Equivalent to only 25p per month)

TO JOIN FILL IN YOUR NAME AND ADDRESS ON THE ORDER FORM (OR ON A SEPARATE SHEET OF PAPER) AND SEND WITH YOUR £3.00 TO THE ADDRESS BELOW.

MEMBERSHIP DEPT.
THE LOGIC 3 SPECTRUM CLUB
MOUNTBATTEN HOUSE
...ORIA STREET

# INSIDE

★ **EDUCATION**
*A selection of the most effective educational programs available.*
*Designed for children from the age of 4 to 16.*

★ **GAMES**
*The best games for the Spectrum selected by our ow... review panel and rated according to: graphics, soun... colour, originality and intere...*

★ **PROGRAMMING**
*The 'Learn BASIC' tutorials really show you how to wri... structured programs in eas... understand stages.*

★ **UTILITIES**
*Design your own games.*

★ **HARDWARE**
*Some good deals in hard... and peripherals.*

## LOGIC 3's SOFTWAR... PANEL

Neil Atkinson, pupil of Si... Borlase School, spends t... weekends in a shop selli... computer software, inte... work as a journalist.

Andrew Goltz, director ... spent 6 years with Com... UK and International D... instigated Commodor... 'Approved Product' sc... third party software.

Bliss Healey, graduat... School of Economics... translated business s... French, currently wo... design of graphics f... software.

Tony Toller, directo... former journalist, s... business applicatio... and co-ordinator o... software club.

## Atic Attack



Machine: 48k
Joystick: Kempston and most others—redefineable keys
Category: Arcade Adventrue
Publisher: Ultimate




Price: £5.50 **Club price: £4.95**

During your quest for The Golden Key of ACG you become trapped in an evil haunted castle. As you wander around the castle's ancient rooms and passages you encounter Frankenstein, Dracula and the Devil himself! As you move from room to room you try to ward off the ghouls and pick up any items which may be of use later.
A fast moving 'graphics only' adventure.

Ratings: /10
Graphics: 7
Sound: 6
Colour: 7
Originality: 9
Interest: 7
Order code: ATIAT

## Avalon



Machine: 48k
Joystick: Kempston Sinclair Cursor
Category: Graphics/Adventure
Publisher: Hewson Consultants

Price: £7.95 **Club price: £6.75**

An amazing 3D arcade/adventure. Avalon features 223 rooms on eight levels, and over 100 characters. You control the "astral projection" of Meroc, a ghostly wizard figure who floats around in an eerie way. Your mission is to banish the Lord of Chaos who has terrorised peasants by stealing corpses of the dead. You will need various spells and skills which can be found in the rooms of the castle of the Lord of Chaos.
The screen display shows Maroc, the room that he is in, any magical objects, and also any of the 100 other characters. The room and larger magic objects are all drawn in 3D. To collect a magic object or spell you just guide Maroc over it. To cast a spell, use your joystick or keyboard to select the right spell from the spell scroll. Only certain spells will provide defence against certain enemies.
Avalon is a complex game, and you must read the instructions. The graphics are clear and well animated, and the sound is good. Plenty to keep you amused and intrigued for a long time. An original graphics adventure—recommended.

## Deus Ex Machina



Machine: 48k
Joystick: No
Category: Strategy
Publisher: Automata

Price: £15.00 **Club price: £13.50**

The prospect of an all star cast performing in stereo sound, synchronised with a computer game and coming from a software house of such standing as Automata was pretty exciting. Perhaps that was the problem. With a lot of software there is such a build up that the product has to be incredible to live up to it all. Deus Ex Machina turned out to be a bit disappointing, but we've included it in our catalogue because because it's a 'first' and it's uniqueness makes it a must for collectors.
To play the game properly you need a tape recorder (preferably stereo hi-fi) as well as your normal Spectrum kit. You load the program and play the audio tape, then there's a countdown routine to enable you to synchronise the start.
The basic theme is the story of life and its struggles. You start as a seed in the womb, progress to becoming and embryo, through birth, life and on into old age. The computer side consists of a number of arcade-style games where you're constantly having to fight off the problems of life, even to the end where you try tp stop your blood cells clotting. The audio tape tells the story and accompanies most of the games with songs.
The soundtrack would do credit to a West End musical, the computer games are average—there's no score so you can't tell how you're doing. Different? Yes. Interesting? Yes, if you're a Psychologist!

Ratings: /10
Graphics: 7
Sound: 10
Colour: 5
Originality: 10
Interest: 6
Order code: DEM

## Doomsday Castle



Machine: 48k
Joystick: Kempston Fuller Sinclair Cursor
Category: Arcade/Adventure
Publisher: Fantasy

Price: £6.50 **Club price: £4.95**

Another high quality arcade adventure from Fantasy. You explore an enormous castle, consisting of no less than *255* labyrinths connected by 49 passages. Get to the corridors by blasting through the doors, whilst avoiding the extraordinary aliens. Recharge your lasers by shocking

original game of lasting interest.

Ratings: /10
Graphics: 7
Sound: 7
Colour: 7
Originality: 8
Interest: 7
Order code: DOOCA

## Jet Set Willy



Machine: 48k
Joystick: Kempston AGF Protek Interface II
Category: Arcade
Publisher: Software Projects




Price: £5.95 **Club price: £4.55**

At last! The long awaited sequal to 'Manic Miner'. The saga continues... Miner Willy has gone from rags to riches. Guide Willy around his clifftop mansion, as he searches for all the bottles and glasses after a party, before his housemaid, Maria, will let him crash out in bed. Check the beach, down the road, and on the rooftop.
Over 70 screens, amazing graphics and humour add up to make this one of the best for the Spectrum.

Ratings: /10
Graphics: 8
Sound: 7
Colour: 7
Originality: 9
Interest: 8
Order code: JETSE

## Jokers Wild



Machine: 48k
Joystick: No
Category: Arcade/Adventure
Publisher: Phoenix Software

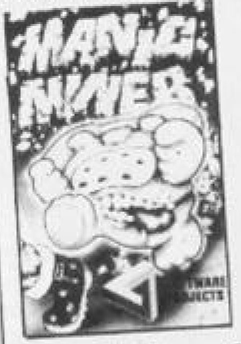



Price: £6.99 **Club price: £5.60**

A high quality value for money package—two games for the price of one. One game is arcade style, the other adventure.
Your mission is to defeat your enemies who are travelling the universe disguised as magicians. This year, the fair which they travel with has been set up on earth. Here they have been hypnotising unsuspecting earthlings, who are then led into 'bunko-booths' where they are robbed of their souls. The enemy's main power lies in a pack of hypnotic cards, which you must try to capture, first in the arcade game, then in the adventure. Before you can play the adventure, you have to reach at least level 4 of the arcade game. From here on, on completion of each level further clues for use in the adventure are given. For those of you whose arcade or adventure playing skill is not quite up to scratch there is a useful 'Panic-Packet', which contains useful clues to help your game play. Good value.

Ratings: /10
Graphics: 6
Originality: 8
Interest: 7

## Manic Miner



Machine: 48k
Joystick: Kempston AGF Protek Interface II
Category: Arcade/Adventure
Publisher: Software Projects




Price: £5.95 **Club price: £4.55**

Willy the Miner has fallen down a disused mine shaft. He works his way through the various levels collecting keys and searching for secret treasure. Manic Miner is a classic arcade game for the Spectrum—There are 20 caverns to penetrate, each requiring its own bit of ingenuity to ensure success.
A classic game that set the standards others are judged by.

Ratings: /10
Graphics: 8
Sound: 7
Colour: 9
Originality: 9
Interest: 9
Order code: MANSP

## Mugsy



Machine: 48k
Joystick: No
Category: Strategy
Publisher: Melbourne House




Price: £6.95 **Club price: £5.55**

From the publishers of the top selling adventure—The Hobbit—comes their newest release, MUGSY. The game can best be described as a comic strip featuring animated characters. As Mugsy, you must organise your gang and their dealings—such as protection rackets and the purchase of weapons and ammunition, and most important of all make sure that your gang stays on top.
Muscle in on the action!

Ratings: /10
Graphics: 9
Sound: 9
Colour: 8
Originality: 10
Interest: 9
Order code: MUGSY

## Sabre Wulf



Machine: 48k
Joystick: Kempston Cursor Sinclair Interface II
Category: Arcade/Adventure
Publisher: Ultimate




Price: £9.95 **Club price: £8.45**

From the publishers of Spectrum classics such as Atic Atac and Lunar Jetman now comes SABRE WULF, an arcade/adventure epic set in the deepest jungle.
The deeper you explore, risking life and limb, the more challenges you face: hippos, rhinos, warthogs, tarantulas, bats and at least 30

# BIG K INLAY CARDS

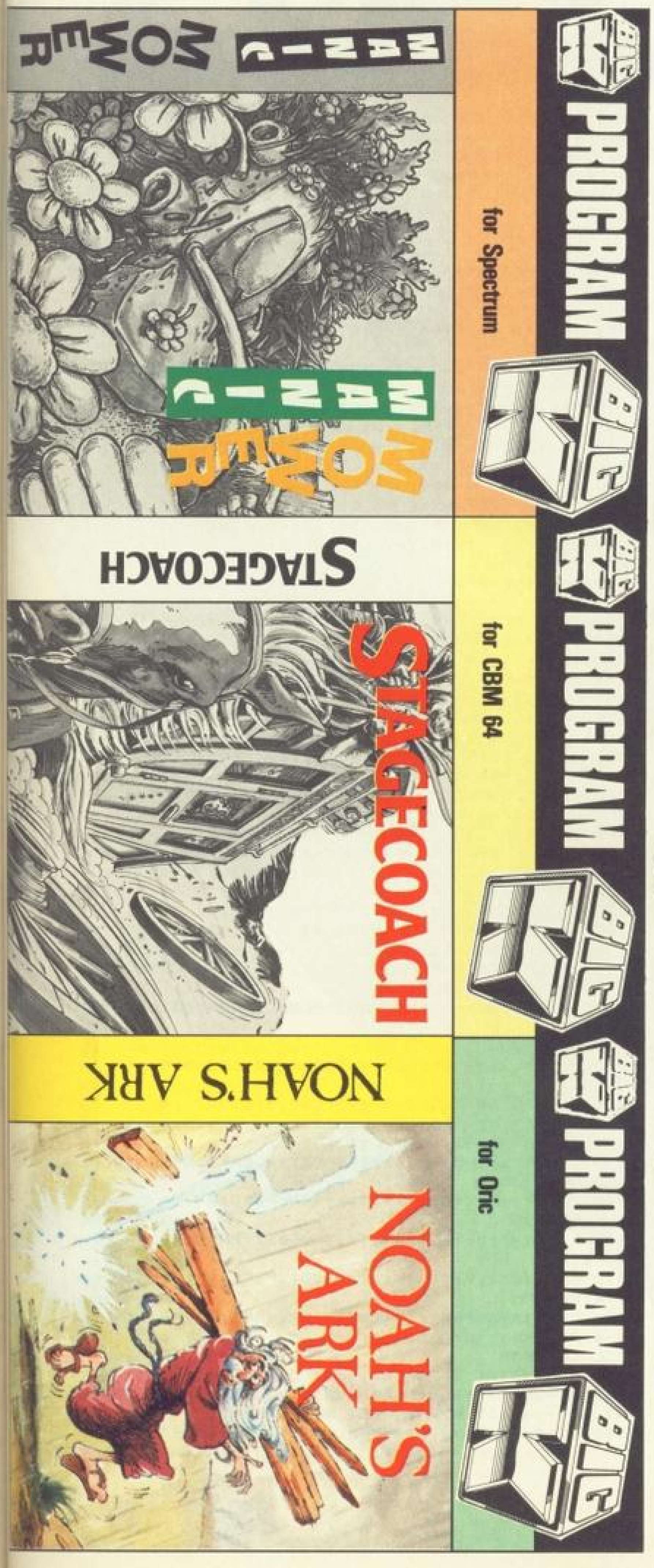
## For your Type-in Games Progs

Customise your BIG K games progs! Just carefully cut out the combined front and spine art. Make a fold and slip it over the existing inlay card in your cassette box.



# INLAY CARDS

For your Type-in Games Progs




# NEXT MONTH

## *What else but...* GOATBUSTERS!

### *The (almost) Compleat JEFF MINTER*

*'Yak the Hairy' talks exclusively to BIG K. Frank, earnest, passionate. Views on software, style..and other subjects starting with S.

*The Llamasoft line-up: games featuring furry creatures, among other strange objects.

*EXCLUSIVE PREVIEW of Minter's newest runner — *Mama Llama!*

## PLUS *SHAFTER!*

The Spectrum listing that unlocks the mega-secrets of BIG K's reviewing style. You won't believe it — we don't believe it!

## Commodore Systems Software

**serious and useful things for your 64 to do.**

## NOT TO MENTION

**Adventure with Steve Keaton's *Dorkslayer* . . shed tears of nostalgia with *These We Have Loved* . . take a stroll down *Arcade Alley* . . revel in our reviews . . leap lithely through our listings . .**

**All non-human life is here. .read it at your own risk**

## *REMEMBER*

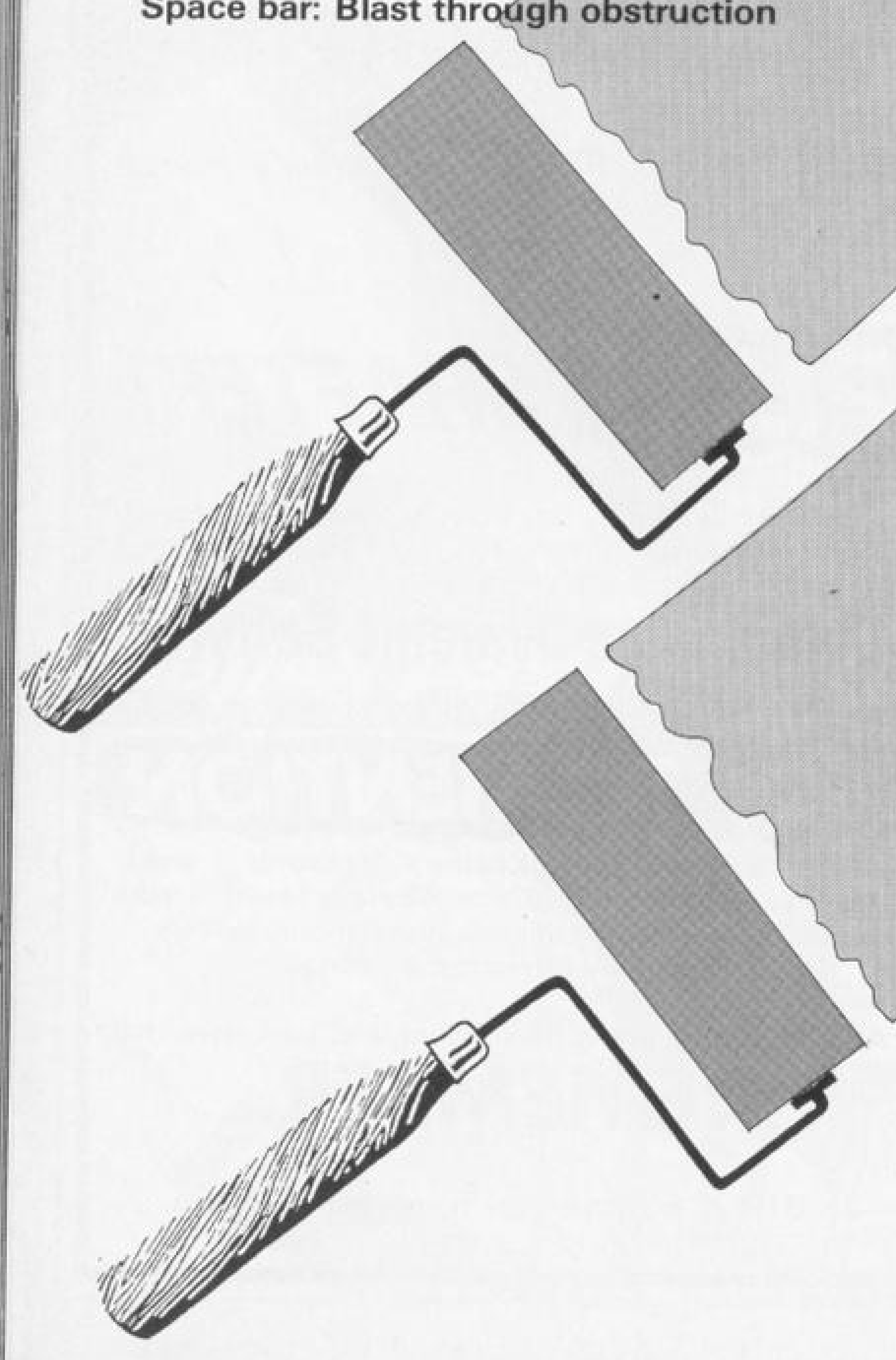
**—in BIG K no one can hear you scream. . .**

# Paint Ro

## by Alan Heywood

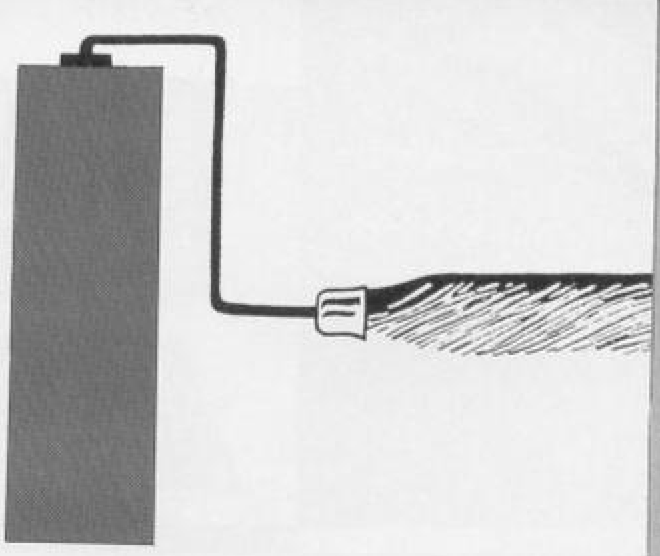
**Life in the Corridors of Power isn't easy. Someone's got to arrange to do the frequent whitewash jobs that every government needs.**
**This exciting game, based on authenticated Civil Service leeks, has you struggling to paint every bit of floor space, but beware of your paint running out.**

**CONTROLS:**
**Left cursor: Go left**
**Right cursor: Go right**
**Space bar: Blast through obstruction**

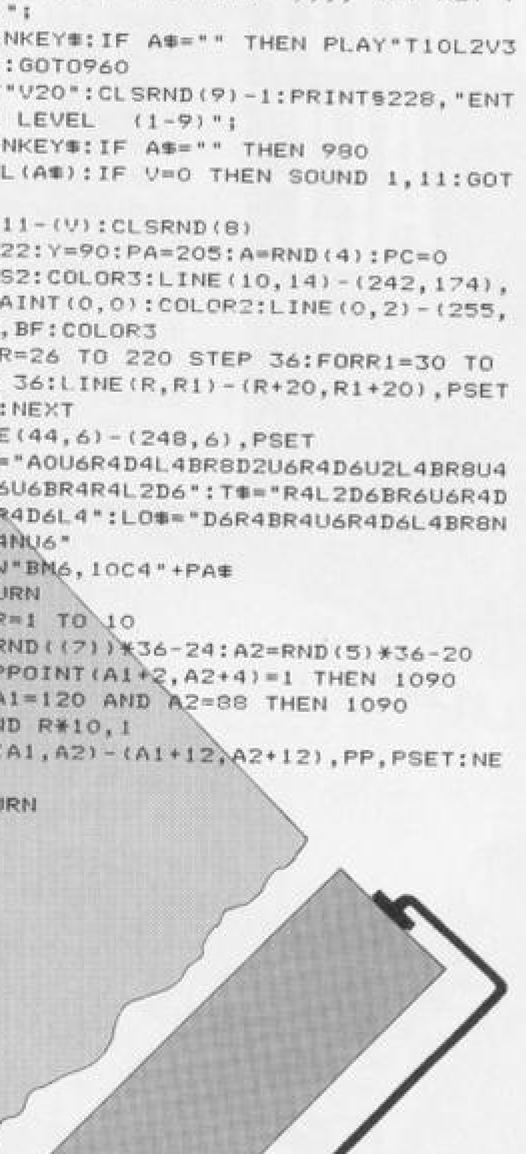


```
10 '***PAINT  ROLLER***'
20 '**BY ALAN HEYWOOD**'
30 CS=RND(-TIMER)
40 PMODE1,1:PCLS2
50 GOSUB 830
60 SCREEN 1,0
70 GOSUB 1080
80 COLOR2
90 FORR=5TO1STEP-1:PLAY"O"+STR$(R)+"T255
L4CDCDDFDFEFEFCCC":NEXT
100 GOTO 350
110 Y=Y+4:C=PPOINT(X,Y+8):C1=PPOINT(X+10
,Y+8)
120 ON C GOTO 440,140,130,140
130 Y=Y-4:PA=PA+1:GOTO150
140 IFC1=3THENY=Y-4:PA=PA+1
150 PUT(X,Y)-(X+10,Y+8),P1,PSET
160 GOTO 380
170 X=X-4:C=PPOINT(X,Y):C1=PPOINT(X,Y+8)
180 ON C1 GOTO 440,200,190,200
190 X=X+4:PA=PA+1:GOTO210
200 IF C=3 THEN X=X+4:PA=PA+1
210 PUT(X,Y)-(X+8,Y+8),P2,PSET
220 GOTO380
230 Y=Y-4:C=PPOINT(X,Y):C1=PPOINT(X+10,Y
)
240 ON C GOTO 440,260,250,260
250 Y=Y+4:PA=PA+1:GOTO270
260 IFC1=3THENY=Y+4:PA=PA+1
270 PUT(X,Y)-(X+10,Y+8),P3,PSET
280 GOTO380
290 X=X+4:C=PPOINT(X+8,Y):C1=PPOINT(X+8,
Y+8)
300 ON C1 GOTO 440,320,310,320
310 X=X-4:PA=PA+1:GOTO330
320 IFC=3 THEN X=X-4:PA=PA+1
330 PUT(X,Y)-(X+8,Y+8),P4,PSET
340 GOTO380
350 A$=INKEY$:A=A+(A$=CHR$(8))-(A$=CHR$(
9))
360 A=A-4*(A<1)+4*(A>4)
370 ON A GOTO 110,170,230,290
380 PA=PA-1:IF PA<0 THEN 790
390 IF PA=20 THEN 710
400 IF A$=" " THEN 570
410 PSET(44+PA,6,2)
420 IF RND(SK)=1 THEN 530 ELSE FORR=1TO1
0:NEXT
430 GOTO 350
440 PLAY"O1V31":FORR=1TO4:PLAY"T255O+DCG
C":NEXT
450 COLOR2:ON A GOSUB 490,500,510,520
460 PC=PC+1:IF PC=10 THEN 730
470 PA=PA+(SK*2):SC=SC+2
480 COLOR3:LINE(44,6)-(42+PA,6),PSET:COL
OR2:GOTO350
490 LINE(X-2,Y+4)-(X+10,Y+14),PSET,BF:Y=
Y-4:RETURN
500 LINE(X-10,Y-2)-(X,Y+10),PSET,BF:X=X+
4:RETURN
510 LINE(X-2,Y+2)-(X+10,Y-10),PSET,BF:Y=
Y+4:RETURN
520 LINE(X+6,Y-2)-(X+18,Y+10),PSET,BF:X=
X-4:RETURN
530 COLOR3
540 ON RND(2) GOTO 550,560
550 A1=RND(5)*36+12:A2=RND(4)*36+2:LINE(
A1,A2)-(A1+12,A2+4),PSET,BF:GOTO 350
560 A1=RND(6)*36-2:A2=RND(3)*36+16:LINE(
```

oller



```
A1,A2)-(A1+4,A2+12),PSET,BF:GOTO350
570 IF PA<22 THEN 690
580 COLOR2:ON A GOSUB 610,630,650,670
590 PA=PA-(18-SK):PLAY"V31":FORR=1TO7:PL
AY"T69L404V-V-V-V-GFDC":NEXT:PLAY"V15":L
INE(255,6)-(44+PA,6),PSET
600 IF PA<20 THEN 710 ELSE 420
610 IF Y>154 THEN 350
620 LINE(X-2,Y+12)-(X+10,Y+16),PSET,BF:R
ETURN
630 IF X<22 THEN 350
640 LINE(X-8,Y-2)-(X-4,Y+10),PSET,BF:RET
URN
650 IF Y<28 THEN 350
660 LINE(X-2,Y-8)-(X+10,Y-4),PSET,BF:RET
URN
670 IF X>220 THEN 350
680 LINE(X+12,Y-2)-(X+16,Y+10),PSET,BF:R
ETURN
690 FORR=1 TO3:DRAW"BM90,10C4;XPA$;BM134
,4;XT$;BM164,4;XLO$;":PLAY"V31T32L405CDC
D":COLOR2:LINE(90,4)-(188,10),PSET,BF:PL
AY"C":NEXT
700 GOTO350
710 FORR=1TO3:DRAW"BM90,10C4;XPA$;BM134,
4;XLO$;":PLAY"T32V31L402DCDC":COLOR2:LIN
E(90,4)-(158,10),PSET,BF:PLAY"D":NEXT
720 GOTO410
730 SK=SK-1:IF SK<2 THEN SK=2
740 WE$="**********WELL  DONE**********"
:FORT=1TO3:FORR=9 TO1 STEP -1:CLSR:PRINT
§-31+(32*R),WE$;:SOUND 250-(R*10),1:NEXT
:NEXT:PRINT§225,WE$
750 FORR=32 TO 193 STEP32:PRINT§R,"*";:P
RINT§R+31,"*";:NEXT
760 PRINT§72,"SCORE          =";SC;:PRINT§1
04,"PAINT BONUS =";PA;:SC=SC+PA:PRINT§13
6,"FINAL SCORE =";SC;:PRINT§168,"SKILL L
EVEL ="11-SK;
770 PLAY"O1":FORR=1TO4:PLAY"O+T16L4CDCDE
FEFGAGAB":NEXT
780 GOSUB 1010:GOTO60
790 PLAY"T255O1V31":FORR=1 TO 30:FORR1=1
TO4:SCREEN1,1:PLAY"D":SCREEN1,0:PLAY"C":
NEXT:PLAY"V-DC":NEXT:PRINT§235,"GAME OVE
R"
800 CLS:PRINT§42,"SCORE = ";SC;:PRINT§10
6,"AGAIN (Y/N)?";
810 A$=INKEY$:IF A$="" THEN 810
820 IF A$="N" THEN END ELSE IF A$<>"Y" T
HEN 810 ELSE RUN
830 DIMP1(1),P2(1),P3(1),P4(1),PP(2)
840 P$="BM100,100;C4R8D2C1NL8D2C4NL8L8R4
D4
850 DRAW"A0"+P$:GET(100,100)-(110,108),P
1,G
860 PCLS2:DRAW"A1"+P$:GET(92,100)-(100,1
08),P2,G
870 PCLS2:DRAW"A2"+P$:GET(92,92)-(102,10
0),P3,G
880 PCLS2:DRAW"A3"+P$:GET(100,92)-(108,1
00),P4,G
890 PCLS2:DRAW"A0BM100,100;C1D8R8U8L8":P
AINT(104,104),1,1:DRAW"C4BL2U2E2R8F2D2BG
4BD2NL4U4L4D6
900 GET(98,96)-(110,108),PP,G
910 A$=STRING$(3,128):CLS0:FORR=194 TO 2
20
920 PRINT§R-32,CHR$(133);:PRINT§R,CHR$(1
33);:PRINT§R+1,STRING$(2,143);:PRINT§R+3
2,CHR$(133);:READB$:PRINT§R-1,B$;:SOUND
R,1:PRINT§R-32,A$;:PRINT§R,A$;:PRINT§R+3
2,A$;:NEXT:PLAY"T2L4P1"
930 DATA ,,,,,,,,,P,A,I,N,T, ,R,O,L,L,E,
R,,,,,,,
940 CLS:PRINT"  YOU, AS THE PAINT ROLLER
, MUSTGET TO THE 10 PAINT TINS ON THE SC
REEN TO REPLENISH YOUR SUPPLY.",,"HOWEVE
R, THE ROUTE YOU TAKE CAN SOMETIMES BE B
LOCKED AND THE    ONLY WAY TO GET PAST I
S TO BLASTYOUR WAY THROUGH. ";
950 PRINT"THIS USES UP  SOME OF YOUR VAL
UABLE PAINT.":PRINT,,"USE THE LEFT AND R
IGHT ARROWS TOSTEER AND THE SPACEBAR TO
BLAST.",,"HAPPY PAINTING!",,,,"ANY KEY T
O BEGIN.";
960 A$=INKEY$:IF A$="" THEN PLAY"T10L2V3
CL3EL4G":GOTO960
970 PLAY"V20":CLSRND(9)-1:PRINT§228,"ENT
ER SKILL LEVEL  (1-9)";
980 A$=INKEY$:IF A$="" THEN 980
990 V=VAL(A$):IF V=0 THEN SOUND 1,11:GOT
O 980
1000 SK=11-(V):CLSRND(8)
1010 X=122:Y=90:PA=205:A=RND(4):PC=0
1020 PCLS2:COLOR3:LINE(10,14)-(242,174),
PSET,B:PAINT(0,0):COLOR2:LINE(0,2)-(255,
12),PSET,BF:COLOR3
1030 FORR=26 TO 220 STEP 36:FORR1=30 TO
160 STEP 36:LINE(R,R1)-(R+20,R1+20),PSET
,BF:NEXT:NEXT
1040 LINE(44,6)-(248,6),PSET
1050 PA$="A0U6R4D4L4BR8D2U6R4D6U2L4BR8U4
D6BR4U6F6U6BR4R4L2D6":T$="R4L2D6BR6U6R4D
6L4BR8U6R4D6L4":LO$="D6R4BR4U6R4D6L4BR8N
U6R4NU4R4NU6"
1060 DRAW"BM6,10C4"+PA$
1070 RETURN
1080 FORR=1 TO 10
1090 A1=RND((7))*36-24:A2=RND(5)*36-20
1100 IF PPOINT(A1+2,A2+4)=1 THEN 1090
1110 IF A1=120 AND A2=88 THEN 1090
1120 SOUND R*10,1
1130 PUT(A1,A2)-(A1+12,A2+12),PP,PSET:NE
XT
1140 RETURN
```



PAINT ROLLER for Dragon 32

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# THESE WE HAVE LOVED

## No. 1 THE JUPITER ACE

## A VICTIM OF THE DEARTH OF FORTH

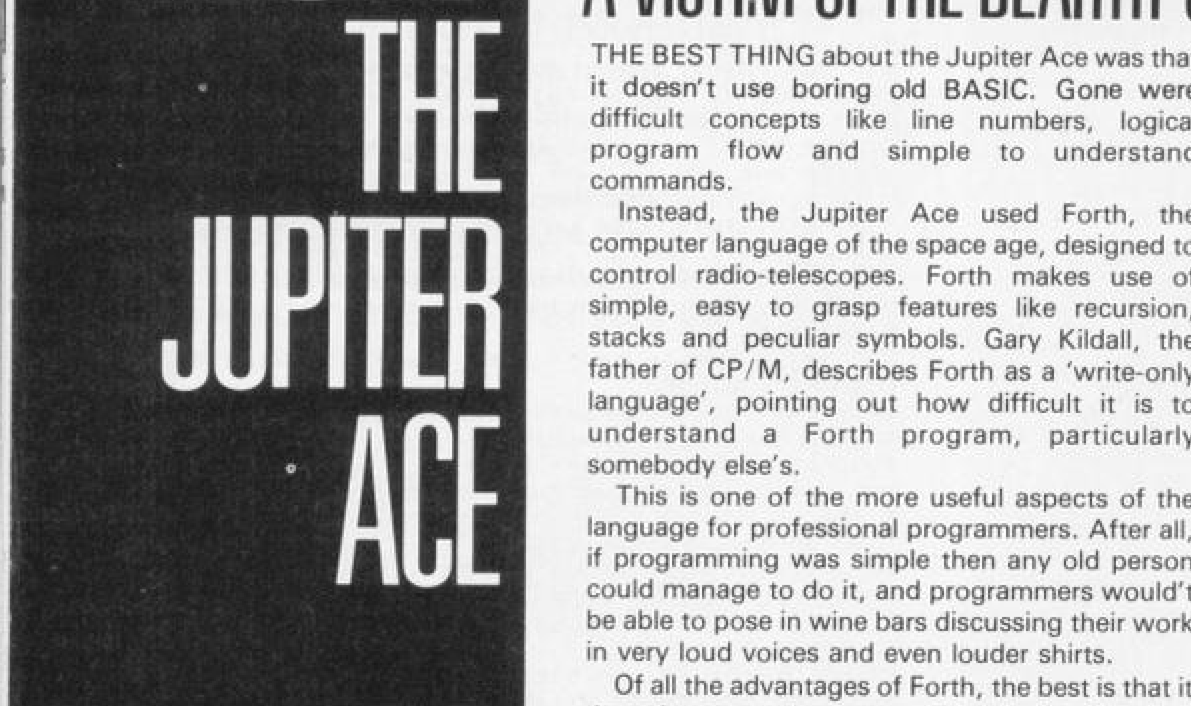
BY BILL BENNETT

THE BEST THING about the Jupiter Ace was that it doesn't use boring old BASIC. Gone were difficult concepts like line numbers, logical program flow and simple to understand commands.

Instead, the Jupiter Ace used Forth, the computer language of the space age, designed to control radio-telescopes. Forth makes use of simple, easy to grasp features like recursion, stacks and peculiar symbols. Gary Kildall, the father of CP/M, describes Forth as a 'write-only language', pointing out how difficult it is to understand a Forth program, particularly somebody else's.

This is one of the more useful aspects of the language for professional programmers. After all, if programming was simple then any old person could manage to do it, and programmers would't be able to pose in wine bars discussing their work in very loud voices and even louder shirts.

Of all the advantages of Forth, the best is that it doesn't use much memory. The Jupiter Ace had only 8k of ROM so it was less likely to contain bugs, and there was a compact 3k of RAM. This added to the speed of the machine as there wasn't much memory to address. As RAM memory can cost as cuch as £3 a kilobyte, this also meant that the Jupiter Ace didn't cost too much at £80.




Just because the Jupiter Ace was cheap to buy, there was no reason to assume that the manufacturer — Jupiter Cantab — had cut any corners. The case was made of the highest quality ultra-thin plastic which could be wiped with an ordinary dishcloth to remove unsightly fingermarks. It came in a tasteful white colour scheme complete with go-faster stripes. The ultra-thin plastic had been specially developed for lightness and flexibility.

One of the most pleasing aspects of the construction came into play when programming in a draughty room — should a sudden gust teasingly blow your micro away, it would gently float to the ground.

Ergonomically the Ace was a triumph. It used the tasteful 'dead-flesh'-style keyboard first made popular on the ZX Spectrum. But amazingly the keys had been crammed into a smaller space. This not only meant that the computer was more compact — taking up only a fifth of the space of a Commodore 64 — but also made playing games more skilful as the keys were harder to hit. I especially liked the way the key markings wore off after a while, making the computer even more secure against prying hands.

Everybody knows that one of the most important aspects of any computer is the associated software base. There was never a great deal of software for the Jupiter Ace, but what did (does?) exist was (is) certainly interesting. Take, for example, the *Mastermind* program. This microcomputing breakthrough featured on-screen display in breathtaking monochrome, state-of-the-art keyboard entry and made use of the integrated beeper. Most of the rest of the software for the machine took the form of toolkits and utility packages, so Jupiter Ace owners weren't going to be wasting their time playing games.

There weren't a lot of peripherals available for the Ace — though apparently someone (one) in the Yorkshire area did buy the disc drives. This wasn't the drawback it appeared to be, because the interface at the back of the machine doesn't work too well. Normally the Jupiter Ace came with a white on black TV output. However if you had a soldering iron, a degree in electronics, a month of Sundays and some money to spend, building a colour monitor output was a trivial exercise. A high-resolution mode of 256x192 pixels placed the Ace in the same class as the Commodore 64.

The Jupiter Ace was not the only micro in the Jupiter Cantab range of computers. Later models came with a cavernous 19K of RAM, and a special switch which could 'turn-off' the Forth ROM. Shortly before the company went bust there were rumours of a version of BASIC available on tape.

Gone . . . but not forgotten.

# GULPO!



***Yes, it's here again. The column that dares to name names and point the accusing finger — mostly at ourselves. Did you spot these classic blunders for the past . . ?***

## He Wrote One (BIG K No.6, p.62)

Apologies to Jean Frost of *Addictive Games,* for it was she who translated *Football Manager* for the Commodore 64, and not Peter Lunn. All credit goes to Peter for the BBC version.

## Maze of Gold for VIC 20

## BIG K No.8, p.95)

Confused VIC 20 owners rest assured, you are not going crazy — we are (or did a long time ago, depending on who you believe). Part of this games listing *was* missing. Below is the first section of the game which must be loaded *before* the section that appeared in BIG K No.8. Note that the listing here is untranslated and contains all the necessary Commodore graphics characters. Just type it straight in. Apologies and thanks to *Maze of Gold* author G. Roberts — as well as the few billion VIC 20 owners out there.

```
1 PRINT"███THE █MAZE █OF █GOLD."
5 PRINT"██*-*-*-*-*-*-*-*-*-*-*-
10 PRINT"████INSTRUCTIONS:-"
12 PRINT"███LEFT=Z█: █RIGHT=X"
14 PRINT"███UP=; :: DOWN=/"
15 PRINT"████BY GP.ROBERTS..."
16 FORT=1TO5000:NEXT
17 PRINT"███GET THOUGH THE MAZE"
18 PRINT"███IF YOU DARE ......."
19 PRINT"███IF YOU RUN OUT OF"
20 PRINT"███TIME YOU GET NO  "
21 PRINT"███SCORE , BUT IF YOU "
22 PRINT"███GET HOME YOU GET  "
23 PRINT"███YOUR SCORE,BY HOW  "
24 PRINT"███MANY GOLDS YOU GET."
25 FORT=1TO9900:NEXT
26 PRINT"█PLEASE WAIT..."
30 POKE55,0:POKE56,28:POKE51,0:POKE52,28
40 S=32768:T=7168
45 FORI=0TO255*8+7:POKEI+T,PEEK(I+S):NEXT
50 FORA=7200TOT+8*22+7:READP:POKEA,P:NEXT
69 REM
70 DATA0,0,252,252,255,255,66,0
80 DATA255,66,255,24,255,36,255,129
90 DATA0,0,8,28,60,126,255,255
99 REM
100 DATA124,64,112,0,24,12,12,252
110 DATA126,126,96,0,96,96,126,126
119 REM
120 DATA126,126,102,0,102,102,126,126
129 REM
130 DATA126,126,102,0,126,88,92,70
139 REM
140 DATA126,126,64,0,120,64,126,126
149 REM
150 DATA102,102,102,0,60,24,24,24
160 DATA102,102,102,0,102,102,102,60
169 REM
170 DATA60,102,102,0,126,102,102,102
179 REM
180 DATA248,252,38,0,38,38,252,248
189 REM
190 DATA102,102,118,0,110,110,102,102
200 DATA126,126,24,0,24,24,24,24
210 DATA126,126,96,0,120,120,96,96
220 DATA126,126,24,0,24,24,126,126
230 DATA198,238,238,0,214,198,198,198
240 DATA102,102,102,0,126,102,102,102
250 DATA24,60,126,255,126,86,118,118
300 LOAD
```

## Turnpike Toad for Oric (BIG K No.8, p.35), Bar Shooting for VIC 20 (BIG K No.9, p.114).

Portions of these listings were rendered illegible due to a bug in reproduction operating system. We apologise. The bug has been shot. Desperate programmers write to BIG K for a correct and clear listing.

## BIG K FUNNIES

*BY ROGER WADE WALKER*



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